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FEBRUARY 5
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2 TOOLS IN

TWO USEFUL TOOLS FOR THE PRICE OF ONE

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WALL SCRAPER ROTARY WALL SAMPLER

The Baker Rotary Wall Scraper provides a safe, efficient means of enlarging the walls of an open hole to a diameter considerably greater than the casing or hole through which the tool is run. Furthermore, the enlargement may be performed at any desired point in the open hole.

REMARKABLE REAMING CAPACITY

One of the outstanding features of this versatile tool is its remarkable reaming capacity in relation to the O.D. of the tool. It has an expansion range of from 4" to 36". Tremendous strength, resulting from its correct design and the use of alloy steels, combined with minimum over-all dimensions, makes it possible to run the Baker Wall Scraper through casing of comparatively small size, then expand the blades and scrape the open hole below the casing to a large diameter.

BAKER WALL SCRAPER APPLICATIONS

Cutting Out Sections of Drillable Pipe
Enlarging Holes for Casing
Enlarging Holes for Gravel Packing
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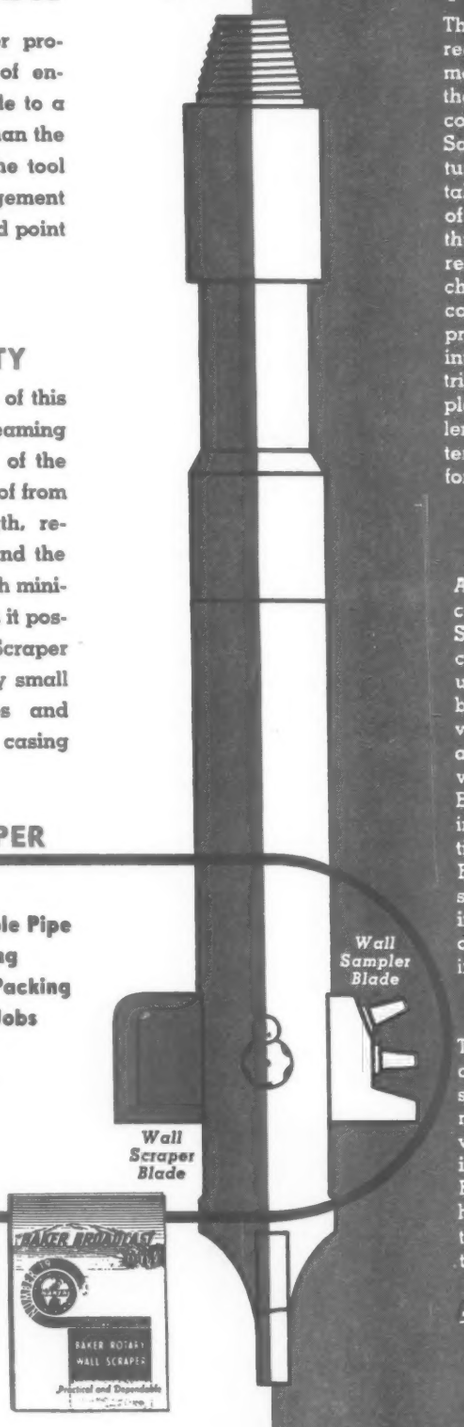
Cleaning up Oil Sands
Setting Cement Plugs
Directional Drilling
Water Shut-Off Tests
Setting Liners

Send for Baker Broadcast No. 19 which describes and illustrates the many important applications for the Baker Wall Scraper and Wall Sampler.



The Baker Rotary Wall Scraper is really "Two Tools in One," since by merely substituting Sampler Blades for the regular Scraper Blades the tool is converted into a Baker Rotary Wall Sampler . . . an exclusive Baker feature. With this device it is possible to take actual cores from the side-walls of any uncased hole at any depth, and thus opens up new opportunities for restoring lost core records, or for checking formations which were not cored when drilled through. It also provides a positive means of checking interesting zones brought out by electrical coring methods. The Wall Sampler cores range from 1½" to 2½" in length; from 7/16" to 11/16" in diameter, thus providing adequate samples for physical and laboratory tests.

DOUBLE VALUE FOR YOUR MONEY

As illustrated, the Baker Wall Sampler consists essentially of a Baker Wall Scraper Assembly, except that a special set of Wall Sampler Blades are used in place of the normal cutting blades of the Wall Scraper. This conversion feature of the Wall Scraper is a combination that means double value for your money.

Each Sampler Blade has two core taking tubes screwed into the upper section of the flat outer edge. These Blades do not have a cutting edge, but serve only to get the core taking tubes into the formation and take any strain off the tubes as the Blades are forced into the walls of the hole.

SAFETY AND RESULTS

The safety of the Baker Wall Scraper and Wall Sampler has been demonstrated in thousands of successful runs made in oil fields throughout the world, under the most difficult operating conditions. To our knowledge no Baker Wall Scraper or Wall Sampler has ever failed to come safely out of the hole with the hole ready for further operations.

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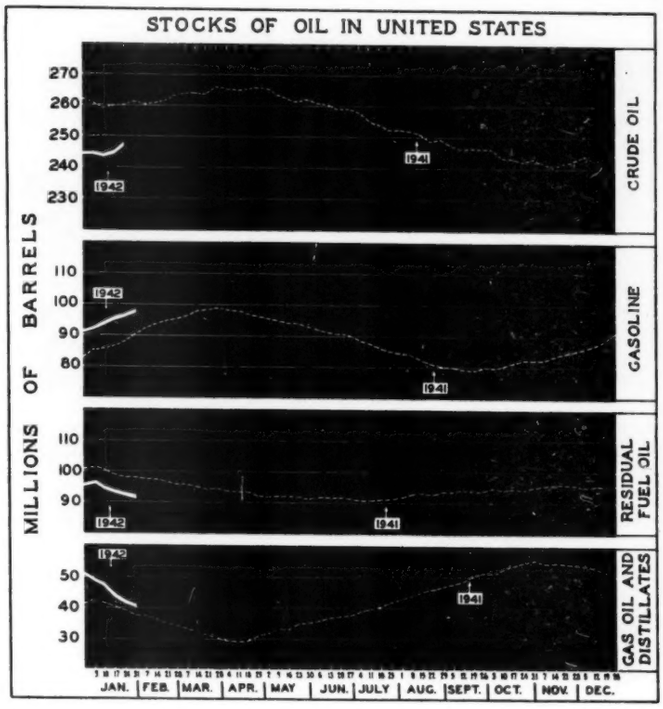
Trends

Gasoline Consumption Not Greatly Affected By Tire Restrictions



TIRE rationing did not materially reduce domestic gasoline consumption during January under the estimates made before the restrictions on new tires were announced. February gasoline consumption will be several per cent higher than in February 1941. The foregoing were the conclusions from a check made the first of the week by Journal representatives located in all parts of the country. As was the case 3 weeks ago when this column gave the results of a survey made shortly after the tire program was announced, the estimates of individual companies as to the importance of tire rationing in relation to the future consumption of motor fuels and motor oils, were not in agreement. Without exception, however, those contacted agreed that domestic gasoline consumption last month was greater than in January 1941, and they also were in agreement that this month's demand would exceed that of the same period last year. The latest reports revealed that it is difficult to determine the significance of tire rationing during the winter months when seasonal changes affect sales at service stations from week to week.

CRUDE PRODUCTION *3,868,300 bbl. daily average—down 453,155 bbl. One year ago 3,594,760 bbl.*

CRUDE STOCKS *247,764,000 bbl. as of January 24—up 1,497,000 bbl. One year ago 260,093,000 bbl.*

GASOLINE STOCKS *97,810,000 bbl. as of January 31—up 1,447,000 bbl. One year ago 90,864,000 bbl.*

RESIDUAL FUEL-OIL STOCKS *91,189,000 bbl. as of January 31 — down 890,000 bbl. One year ago 100,428,000 bbl.*

GAS OIL AND DISTILLATES *40,674,000 bbl. as of January 31—down 1,189,000 bbl. One year ago 37,634,000 bbl.*

REFINERY RUNS *3,848,000 bbl. daily week ended January 31 — down 37,000 bbl. One year ago 3,680,000 bbl.*

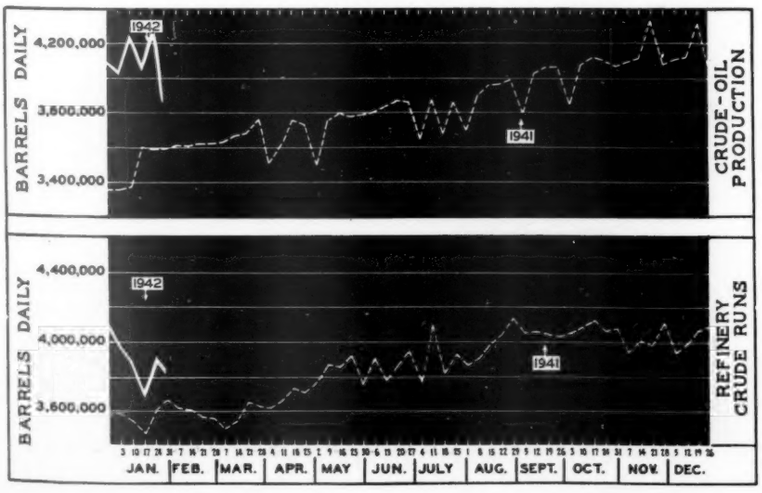
Two reports showed that owners reduced the use of their cars when the rubber restrictions were first announced but later in the month a majority apparently returned to the normal use of their cars. One large company reported an 8 per cent increase in its gasoline sales during January covering a large territory. It had expected a 12 per cent increase. The company believes that its experience in January was the average of other companies.

These reports are significant in that they tend to discount the accuracy of more pessimistic estimates which have credited tire rationing with bringing about a large reduction in gasoline consumption with unwanted market reactions at refineries. One market observer concludes from the experience of his own company that gasoline consumption in this country will continue to run ahead of last year through the remaining winter period and through the spring months.

Marketwise, the most important developments of the year so far have been brought about by the reduction in tanker shipments in Pacific and Atlantic waters due to the successful war attacks on shipping. These attacks have reduced tanker movements from the Gulf Coast to Atlantic seaboard points and stocks of some products are being reduced at eastern points. Gulf Coast refiners and terminal operators are faced with the opposite situations and their stocks are accumulating at too rapid a rate and some price concessions have resulted.

DAILY AVERAGE PRODUCTION FOR WEEK

	Jan. 31, 1942	Feb. OPC recommended production	February state allowables	Jan. 24, 1942
Arkansas	74,505	74,500	74,500	74,150
California	635,750	632,300	632,300	650,750
Eastern fields	110,900	111,400	.....	110,200
Illinois	375,095	371,800	.....	367,160
Kansas	251,200	251,700	251,700	254,200
Louisiana	366,805	335,000	344,955	366,380
North Louisiana	*81,005*	.....	.....	*82,730*
Louisiana Gulf Coast	*285,800*	.....	.....	*283,650*
Michigan	51,300	47,000	47,000	48,200
Mississippi	79,705	57,400	.....	74,930
Nebraska	5,250	5,200	.....	5,200
New Mexico	120,960	119,300	119,300	119,975
Oklahoma	408,850	395,300	395,300	417,150
Rocky Mountain states	117,980	104,900	.....	107,500
Texas	1,270,000	1,596,000	1,606,389	1,725,600
East Texas	*291,000*	.....	.....	*439,800*
West Texas	*242,450*	.....	.....	*348,500*
North Central Texas	*144,350*	.....	.....	*146,800*
East Central Texas	*80,000*	.....	.....	*93,800*
Texas Panhandle	*75,500*	.....	.....	*91,100*
Texas Gulf Coast	*352,300*	.....	.....	*494,400*
Southwest Texas	*84,400*	.....	.....	*111,200*
Total United States	3,868,300	4,101,800	....	4,321,455
Total production, Jan. 1-31, 1942		127,494,285 bbl.		
Same period last year		108,424,180 bbl.		



More Rulings on Well-Spacing Program Expected Soon

By H. STANLEY NORMAN

WASHINGTON, D. C., Feb. 3. — Declaration that "uniform spacing" as used in Conservation Order M-68 means the location of wells in the corresponding geographical position in adjacent drilling units of 40 acres will be issued in a few days by the War Production Board. Interpretations of what is meant by uniform spacing in M-68 have been prepared or are in process of preparation by the Office of Petroleum Coordinator.

Operators may as well stop worrying about the exceptions to spacing restrictions as stipulated in M-68. There just aren't going to be many. Fewer than 250 applications for exceptions to the spacing restrictions so far have been filed in Washington, D. C., with the OPC. Delays in assembling all the information required for exceptions and other conditions are a factor in this situation. Three or four recommendations that exceptions be granted have been "processed" by OPC and are now either in effect or awaiting approval by the Division of Industry Operations of the War Production Board, where the final control rests.

Applications for permission to obtain certain materials, including steel, that may originate from practically every industry in the country, are sent through the hands of a long list of boards and bureaus in Washington. Each agency concerned may make its individual recommendation and then differences are adjusted by a "review board" in the War Production Board. Army and Navy representatives dominate the reviewers and, because of the constitution of the board, military requirements are receiving preferential consideration at all times. The oil industry has practically no voice in the final decisions as to which industry will receive what material. This situation accounts for the practically unrestricted flow of steel and other critical materials into the production of aviation-gasoline plants, facilities for recovering isobutane and the other hydrocarbons contributing to end products useful in prosecution of the war. Materials for installations that have little or no possibility of contributing to the production of fuels useful in warfare are unavailable and will continue to be ignored until the military requirements are met.

Must State War Contributions

Oil producers, refiners and transporters must show that the projects they have under consideration will contribute something to the war program if their applications are to receive attention. The incoming mail baskets of Washington offices are stacked to capacity with applications for materials that have no bearing on the war. Apparently, they will stay unattended to until war needs are cleared.

There is a strong belief among officials of the OPC that exploratory drilling will expand at an unprecedented rate this year. The reasoning behind this conclusion is not quite so clear. There is agreement that the over-all demand for petroleum will be approximately even with that in 1941, but emphasis will fall on fuel oils, aviation gasoline and aero lubricating oils. Civilian automobile fuels and lubricants are subordinated. The evidence that civilian requirements will continue in secondary or lower categories of consideration is conclusive.

The well-pattern outlook is a case in point. OPC's recommendation which, if approved by WPB, will be issued as an interpretation to M-68, provides that uniform spacing means the location of wells in the same geographical position on units of 40 acres within a field. For example, if the discovery well of a field is in the northeast corner of a 40-acre lease, all subsequent wells must be drilled in the northeast corner of adjacent tracts of equal size. The exception to this general interpretation will be that operators may elect to drill in the center of the 40 acres, or within a radius of 150 ft. from the center. Latitude of 100 ft. from the corresponding geographical location of a producing well on an adjacent 40 acres is to be extended to make the interpretation practical. Otherwise an operator might be prevented from drilling a legitimate location because it happened to fall on a farmer's front porch

John Jones, attorney for the Kansas Corporation Commission, who is reported to be preparing an interpretation of what M-68 means with respect to uniform spacing

or his cellar, or some other equally ridiculous spot.

No well may be drilled nearer than 330 ft. from any lease producing or well in process of being tested prior to December 23. This interpretation is designed to permit the drilling of offset wells which may have been contracted or imposed in some other obligatory form prior to the issuance of M-68.

Practical effect of the forthcoming interpretation of the spacing provisions of M-68 will be that, if followed to the letter and without recourse to options, wells drilled during the emergency will all be spaced at intervals of 1,320 ft. By exercising the option to move as close as possible to an adjacent well and stay within limits of the interpretation, an operator may locate his well within 1,095 ft. of another producer which would be the distance between the outer edge of the 150-ft. radius from the center of a square 40-acre unit and the next nearest well in a legitimate location on an adjoining square 40.

In rectangular-shaped 40's, wells may fall within 660 ft. of another and still conform with the OPC's concept of uniform spacing. Conservation Order M-68 provides that no 40 acres established as a drilling unit may be more than twice as long as its mean width.

Indications are that 16,000 to 20,000 wells, including unsuccessful exploratory drilling, will be completed in 1942. This conclusion of OPC officials is based on what they think will result from provisions in M-68.

Exceptions to M-68 will be granted to the extent of drilling one well to each 40 acres in case a distinctly new sand is proved productive. This, OPC men believe, will take care of development in old fields where deeper producing horizons may be discovered.

Believe Exploratory Drilling Will Increase

Belief is strong among OPC executives that exploratory drilling will increase and contribute substantially to the volume of production in contrast to the dependence in the past on more intensive development of proven fields. This conclusion involves a projection of incentives that would convert the industry to the concept of a substantial increase in exploratory drilling. There is general agreement that the quickest and most effective channel for obtaining an expansion in exploratory drilling is by the medium of a price advance. This control is beyond the scope of OPC functions. However, there is the possibility that productive capacity of the industry may fall below requirements and in that event, Leon Henderson, the price administrator, might yield and allow the crude market to rise to whatever extent is necessary to bring the wildcat exploratory operations to a level dictated by petroleum demand. This compensatory conclusion is obviously a potent factor in the policy trend.

Compulsory communitization of small tracts is even more stringent in the minds of the OPC than Conservation Order M-68 implies. The interpretation that will be issued soon not only prohibits the majority owner in a diversely owned 40-acre tract from drilling until the minority interest is communitized but it will also prevent the owners of adjoining tracts from starting development. The full implications of this interpretation are manifold. It is possible, under the interpretation, for obstinate, unreasonable or capricious owners of a town lot within a 40-acre drilling unit to prevent development of a total of 360 acres. That would be an extreme case, of course, but serves to illustrate the direction in which drilling is headed.

Many Factors to Consider in Fixing State Allocations

By W. V. HOWARD

THERE is much speculation among oil men with regard to the latest ruling of OPC to the effect that allocation of production between the states is to be based to some extent upon reserves. At a hearing of the Corporation Commission of Oklahoma last week, it was pointed out that this would mean that Oklahoma's production would be cut in half as the state's output is 11.2 per cent of the nation's total while reserves amount to only 5.4 per cent of that total. The general inference is that Texas, with 56.6 per cent of the nation's reserves and only 35.7 per cent of the nation's production, would get a large increase in allowables.

Many people, in their haste to determine to what extent existing conditions would be disturbed, failed to note two important provisions of the OPC ruling. These are that attention will be paid, first, to market demand and, second, to stripper production.

Market demand includes a number of factors such as distribution of refineries, transportation facilities, both from the field to the refinery and from the refinery to the consumer, and also the disturbance caused by war. It is impossible to predict what changes will take place in these factors, but we can assume that the total market demand of 4,101,800 bbl. a day is the present actual market demand. If allocation were made to supply this demand according to reserves, after considering stripper production, how might the allocations be made?

California's Position

California can be removed from consideration at this time. Its geographical location and the approximate balance between percentage of production and of reserves make it improbable any oil would move from Pacific to Gulf or Atlantic ports, or vice versa. Since stripper wells are to be allocated their full capacity, certain states may also be omitted from consideration, namely Kentucky, West Virginia, Pennsylvania, New York, Ohio and Nebraska. Nebraska is not, strictly speaking, a stripper state, but its production is so small that it may be considered as such.

The balance to be allocated among the other states is 3,370,100 bbl. as shown in Table 1.

TABLE 1—RESERVES AND ESTIMATED DEMAND
(In barrels)

State—	Reserves	Est. demand
Total United States	20,299,543	4,101,800
Less California and eastern states	3,776,576	731,700
Balance	16,522,967	3,370,100
Less stripper production	3,551,775	1,015,100
Balance	12,971,192	2,355,000

There are a great many definitions of stripper production. Naturally, stripper wells are pumpers, but many would object to including all pumpers as strippers. This is true of Tinsley, for example, where pumpers average 135 bbl. a day. Fields such as St. Louis in Oklahoma are stripping fields because the wells produce only some 25 bbl. on the average and have to pump 250 bbl. of water to get it. The writer is not going to attempt to define stripper wells except to point out that the function of depth should be added to that of production. They are essentially wells which must produce to capacity else oil will be lost, the operators forced to produce uneconomically, or both.

TABLE 2—RESERVES AND PRODUCTION OF STRIPPER FIELDS
(In barrels)

State—	Reserves	Est. allocation
Montana	17,997,000	7,500
Wyoming	96,606,000	20,000
Colorado, Utah	19,027,000	4,500
New Mexico	96,870,000	30,000
Texas	1,732,919,000	376,000
Louisiana	194,280,000	53,200
Arkansas	87,990,000	21,000
Mississippi	500,000	400
Oklahoma	890,136,000	305,800
Kansas	187,610,000	51,500
Illinois	161,496,000	110,000
Indiana	16,626,000	5,200
Michigan	49,718,000	30,000
Total	3,551,775,000	1,015,100

The analysis of stripper production in the various states shown in Table 2 is the writer's own and probably would not be universally acceptable. It is intended, however, to present an idea of the amount of production now allocated to the various states which would remain so allocated regardless of reserve estimates.

The balance of the reserves of the states represented in Table 3 is 12,971,192,000 bbl. This amount is considered proratable and has a balance of 2,355,000 bbl. to be allocated among the different states. The reserves and estimated allocation are given in Table 3.

Gainers by the Method

Gainers by this method of allocation would be Texas and New Mexico, while Illinois, Louisiana, Kansas, Oklahoma, Mississippi, Wyoming and Michigan would lose heavily. Of these states, Illinois, Mississippi and Michigan have frequently been cited as states which are overproducing. Louisiana has a large number of fields which are comparatively undrilled and, if these were fully developed, reserves, and consequently allocations,

(Continued on Page 16)

Reserves Largely Determine Division of Crude Markets

WASHINGTON, D. C., Jan. 31.—Proven reserves are the principal factor considered in arriving at the allocations for crude-oil production by states, according to an official explanation of the procedure of OPC this week. These allocations, effective in January and February, reduced production in several states and increased the output of other areas. Complaints have been received here from some of the states and also from operators whose production has been reduced.

The objective of the certification procedure, it was explained by Deputy Petroleum Coordinator Ralph K. Davies, is to provide a sound program whereby each oil-producing state will participate properly in supplying the total national demand for petroleum.

"This involves taking into consideration," Mr. Davies said, "not only the market demand for production by the state but also the relative crude-oil reserve position of each state and the rate at which such reserves are now being depleted. To make such a program successful it is necessary to view the problem of crude petroleum supply in its national aspects. Only by attacking the problem in its national scope may we be assured of the coordinated functioning of the petroleum industry necessary to meet the rigid requirements imposed by the defense program."

In general, Mr. Davies explained, the certified production for the respective oil-producing states are determined as noted in following paragraphs:

1. Consideration is first given to the indicated current market demand for production from each of the several states. The determination of demand is made by the same method as were the Bureau of Mines' forecasts, publication of which has been suspended for the duration of the war.

2. The amounts under (1) are adjusted by considering the relationship of the known reserves of each state to the known crude-oil reserves of the nation, giving prior recognition to stripper production.

By considering the factors determined under (2), recognition is given to the relative ability of the various sources of supply to produce on an efficient and sustained basis in addition to considering current demand for production in any given state. Under the certified rates a greater degree of production efficiency will be realized than if the production rates were based upon demand alone, and, therefore, each state will be in a better position to maintain its proper contribution in meeting the national requirement for petroleum.

"The inability to predict the duration of this war," Mr. Davies said, "makes it imperative that we balance our current operations in order to maintain the crude-oil reserves of the nation in such condition that we will be able to provide an ample supply of petroleum in the last critical stages of the conflict as well as at present."

When a pipe line was being built recently into a new field in southwestern Arkansas, for natural-gas transmission, the usual methods of motive power were unavailing, and had to be discarded for primitive methods. The builders found consolation in the fact that no priority orders were necessary and the units won't have to be retreaded soon. P.S. The gas got through on time. (Courtesy Louisiana Nevada Transit Co.)

This Week...

In their concern that existing conditions may be greatly disturbed by the OPC ruling in which allocation of production between states is to be based to some extent upon reserves, many operators may have overlooked important provisions of the ruling that attention will be paid first to market demand and stripper production.

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Orders limiting uses and customers which may be served in the event of a shortage of natural gas prepared by the War Production Board to insure that defense industries will not have to curtail operations.

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Restatement of policies of Price Administrator Henderson relative to previous price-freezing order of November 7, 1941, occasion only minor revisions in marketing policies on the West Coast. Prices of crude and many refined products fairly well stabilized.

Reduction of royalties required on all oil and gas leases issued on public lands to a flat rate of 12½ per cent is provided in a bill introduced in the U. S. Senate by Sen. Joseph C. O'Mahoney of Wyoming.

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Another major effort to cut the present depletion allowance is starting in the U. S. Treasury Department. Secretary Henry Morgenthau described the depletion allowance as one of the major "loopholes" in the present tax structure of the country.

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Position of the oil companies whose properties were expropriated by the Mexican Government in 1938 is believed strengthened by the ruling of the Mexican Supreme Court in the Sabino Gordo Petroleum Co. case that subsoil rights acquired by confirmatory concession cannot be annulled by executive decree.

Allen H. Hand, assistant director of transportation on the staff of Harold L. Ickes, petroleum coordinator, chosen secretary-treasurer of the Petroleum Industry Counsel for National Defense.

●

Despite the limitations of drilling to 40-acre units, the biggest development play in many months is getting under way around the new Midway pool, Lafayette County, Arkansas. Twenty-one locations were made on 40-acre units.

●

Hints that the new War Production Board may be asked to reconsider the matter of allocation of steel for the construction of a big oil pipe line from Texas to the New York Harbor area were given by Harold L. Ickes, petroleum coordinator.

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Declaration that "uniform spacing" as used in Conservation Order M-68 means that location of wells in the corresponding geographical position in adjacent drilling units of 40 acres will be issued shortly by the War Production Board.

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A precedent regarding title to minerals under rights-of-way obtained by all public land grants since about 1871 apparently was set by the U. S. Supreme Court in ruling the Great Northern Railway Co. has no fee title or mineral rights on its right-of-way acquired by grant through the General Right-of-Way Statute of 1875.

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Belief is strong among officials of OPC at Washington that exploratory drilling will expand at an unprecedented rate this year. This is contrary to the views of many within the petroleum industry.

●

The states whose production percentage of the total crude-oil market is being reduced as a result of OPC's new allocations are not taking kindly to the development. More will be heard about this later.

would also rise. The same is true to a lesser extent of Wyoming. Oklahoma has a large backlog of stripper production and could probably continue to produce the new allocation for some time. In Kansas, it is suspected that a great many potentials are too high and that the number of low-production fields is much greater than is estimated. Allocation on the basis of reserves would probably cause a revaluation of these fields with consequent increases in allocated production.

It will be noted that some of the states with an estimated large decrease in allocations are closer to the market than Texas and New Mexico. Also, existing transportation facilities would not permit moving an additional 431,845 bbl. from Texas and New Mexico after deducting the estimated decline from Louisiana. The revival of the National Defense pipe line may be linked with the new proposal for allocating production on the basis of reserves.

TABLE 3—ESTIMATED PRORATABLE RESERVES AND ALLOCATED DEMAND

State—	Reserves	Per cent	Est. allocation
Montana	57,917,000	0.4	9,420
Wyoming	151,842,000	1.2	28,260
Colorado, Utah	11,018,000	0.1	2,355
New Mexico	564,688,000	4.4	103,620
Texas	9,745,871,000	75.1	1,768,605
Louisiana	829,805,000	6.4	150,720
Arkansas	267,647,000	2.1	49,455
Mississippi	76,317,000	0.6	14,130
Oklahoma	213,886,000	1.6	37,680
Kansas	565,060,000	4.4	103,620
Illinois	446,617,000	3.4	80,070
Indiana	10,150,000	0.1	2,355
Michigan	30,374,000	0.2	4,710
Total	12,971,192,000		2,355,000

These estimated allocations are added to the allocations for stripper fields and compared with existing allocations in Table 4.

TABLE 4—ESTIMATED ALLOCATION ON RESERVE BASIS CONTRASTED WITH PRESENT ALLOCATIONS

State—	Proratable allocation	Stripper allocation	Total	Present allocation	Gain or (—) loss
Montana	9,420	7,500	16,920	20,400	—3,480
Wyoming	28,260	20,000	48,260	78,000	—29,740
Colorado, Utah	2,355	4,500	6,855	6,500	355
New Mexico	103,620	30,000	133,620	119,300	14,320
Texas	1,768,605	376,000	2,144,605	1,596,000	548,605
Louisiana	150,720	53,200	203,820	335,000	—131,080
Arkansas	49,455	21,000	70,455	74,500	—4,045
Mississippi	14,130	400	14,530	57,400	—42,870
Oklahoma	37,680	305,800	343,480	395,300	—51,820
Kansas	103,620	51,500	155,120	250,700	—96,580
Illinois	80,070	110,000	190,070	371,800	—181,730
Indiana	2,355	5,200	7,555	17,200	—9,645
Michigan	4,710	30,000	34,710	47,000	—12,290
Total	2,355,000	1,015,100	3,370,100	3,370,100	.....

Allen Hand Named Secretary Of Industry Council

WASHINGTON, D. C., Feb. 3.—Appointment of Allen H. Hand, formerly with the Union Oil Co. of California, as secretary-treasurer of the Petroleum Industry Council for National Defense was announced here by W. R. Boyd, Jr., chairman.

Mr. Hand has been on the staff of Coordinator Ickes as assistant director of transportation since last August. His selection as secretary-treasurer of the council was based in a large measure upon the diversity of his experience, especially during the latter years of his service with Union Oil Co. of California.

He specialized in operating and financial accounting and statistics, advancing to the position of assistant comptroller, which he held for a number of years prior to his resigning to go into business for himself in the early part of 1939. He continued his statistical and economic activities for the industry, made efficiency and cost studies for independent producing and refining companies, modernized accounting systems for independent operators and worked with counsel for receivers in connection with petroleum bankruptcy matters. He also engaged in brokerage of crude oil and petroleum products and wholesale distribution of gasoline to service stations.

Mr. Hand became a temporary consultant on petroleum for the old Office of Price Administration and Civilian Supply in June 1941. He transferred to the Office of Petroleum Coordinator in August and was appointed assistant director of transportation in October.

Canada's Gasoline Rationing Plan Drastic in Restrictions

OTTAWA, Ont., Feb. 3.—Between 300 and 380 gal. of gasoline annually will be rationed among Canadian drivers of 1,125,000 automobiles for nonessential-civilian consumption, effective April 1. Nonessential automobile operation will be reduced to "approximately 5,400 miles" per car annually by the rationing plan which was announced by C. D. Howe, minister of munitions.

The rationing plan was devised by G. R. Cotrelle, petroleum controller. It provides that all of Canada's 1,600,000 passenger cars and motorcycles will receive gasoline in proportion to their usefulness but consumption for pleasure trips will be drastically reduced.

Every vehicle in the country will be designated as belonging to one of seven categories. First on the list will be cars in *A* category—cars owned privately and driven for nonessential purposes. At the bottom of the list and in the most preferred classification will be vehicles used to supply the armed services and certain other essential commercial vehicles.

The year's ration for nonessential users will be divided into 60 units and apportioned for use during the 12 months in relation to the amount of driving usually done and the amount of supplies available. Officials said that it was expected that the division of units between the four quarters would not be equal, but that a larger number of units would be available in the third quarter, when summer driving is at its peak. Each book of coupons will permit the purchase of a designated number of units of gasoline, according to the category of the vehicle for which it is issued. In the beginning, the unit will represent 5 gal. of gasoline but the purchaser will be permitted to turn in half a coupon if he wants to buy only 2½ gal.

"Those in category *A* will be allowed 60 or more units," declared Mr. Howe, "according to horsepower. This means that under the present schedule the owner or a small car driven for ordinary family use will be able to buy 300 gal. per year. Others will be rationed according to their proved needs."

Car owners will be required to fill out an application and submit this statement with his 1942 motor-vehicle license. With the application he must send $1 for his gasoline-privilege registration and, in return, he will receive a gasoline license and coupon book. The license will be good for 1 year. The task of issuing the coupons will be handled by the issuers of motor-vehicle license plates in each Canadian province, but anyone applying for a coupon book for a car in other than the basic *A* category will have to send in his application to the nearest regional office of the oil controller before his coupon book will be issued. If his application is approved, he will submit it along with the fee and his vehicle license to an issuer of motor-vehicle licenses, and the latter will issue the rationing license and coupon book.

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Expropriated Companies' Position Bolstered by Court's Decision

BOTH American and Mexican lawyers view the decision of the Mexican Supreme Court in the case of the Sabino Gordo Petroleum Co., subsidiary of Cities Service Co., as a reversal of the decision of the court in March 1938, which served as a basis for the Mexican Government's refusal to compensate expropriated oil companies for subsoil rights. A statement from the Government Information Bureau in Mexico City says that the Sabino Gordo decision was not of great significance in the oil issue but legal circles were unanimously of the opinion that it had vastly strengthened the position of the expropriated companies in their contention that subsoil rights constituted from 75 to 90 per cent of the value of the properties.

The Sabino Gordo Petroleum Co. was not involved in the 1938 case. It had a concession of 72,000 ha. (177,912 acres) at Aldama in the State of Tamaulipas north of Tampico which it had obtained in 1928. This concession had been canceled by order of the minister of national economy on the basis that it was national ground. In its decision in the Sabino Gordo case the Supreme Court ruled that subsoil rights acquired by confirmatory concession cannot be annulled by executive decree.

Despite the evident intent of the information bureau to play down the importance of the latest decision involving subsoil rights, it is believed that the two appraisers, one each appointed by the Mexican and U. S. governments, cannot now ignore this consideration in making their evaluations. In doing so the one barrier to satisfactory settlement of the issue will be removed and the possibility of its reaching a conclusion will be accordingly heightened.

Since there is considerable question if Mexico could even meet the value of $37,000,000 which her own appraisers placed upon American oil properties, there is no question of her inability to pay compensation that would include subsoil rights. This would be required if the Sabino Gordo decision is accepted as a reversal of the former position of the government. It would leave only one or two avenues of escape open to that government, either restitution of the properties or an agreement by which the companies would be permitted to operate them, either of which would be acceptable to the companies.

Conferences with American oil companies will be held starting immediately with a view of settling the controversy over the evaluation of properties, it was announced late last week by Morris L. Cooke, United States expert, appointed by President Roosevelt to evaluate the expropriated properties.

Mr. Cooke has just returned from Mexico City where he has been holding conferences for the past 3 weeks with Manuel J. Zevada, Mexican expert. During these meetings the United States and American experts agreed on a plan of procedure for the evaluation proceedings.

The Washington agreement was ratified by the U. S. Senate last week, but not before it made evident the fact that it would study any agreement reached in the case of the expropriated oil companies. Senator Vandenburg (R., Mich.) described Mexico's action as the "most glaring" of any expropriation and with Senator White (R., Me.) expressed the hope that the Senate's approval of the agreement did not imply that the oil claims would be settled on the same basis as others.

Senator Vandenburg declared that "the more controversial claims (oil) are not touched and it ought to be understood that the basis of settlement in this agreement ought not to be the precedent for settlement of the balance of the claims." He said that the good-neighbor policy "cannot be a one-way street" and reminded the Senate of the note sent by Secretary Hull to the Mexican Government on April 3, 1940, in which the secretary of state pointed out that 2 years had elapsed since the oil properties were expropriated and no attempt had been made to compensate for them.

In another decision handed down last week, the Mexican Supreme Court ruled that the 1938 decree did not require expropriated companies to surrender their books and business records. This decision was handed down in the case of the Transcontinental Petroleum Co., a subsidiary of the Standard Oil Co. of New Jersey, and decided against the attempt of the Ministry of National Economy and the National Administrative Council to force the company to yield its records to the management council now directing operation of the Mexican industry.

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Increase of 86 Per Cent in Movement of Oil to Eastern States

WASHINGTON, D. C., Feb. 3.—Overland movement of petroleum into eastern seaboard states has increased 86 per cent since the start of unrestricted submarine warfare directed particularly at Atlantic coastwise tankers. Data reported late last week by the OPC disclosed that 3,410 tank cars of crude oil or products were shipped by rail to East Coast destinations during the 7-day period ended January 24. For the week ended January 10, eastern oil companies shipped 1,827 tank cars of petroleum into Atlantic Coast states. Rail movement increased to 2,410 cars for the week ended January 17 and was followed by the most substantial gain yet reported of 1,000 cars in the latest week for which figures are available.

On the average basis of 225 bbl. per tank car, 109,475 bbl. of petroleum daily was moved.

Industry War Council Holds Monthly Meeting

WASHINGTON, D. C., Feb. 3.—Early sessions of the regular monthly meeting of the Petroleum Industry Council for National Defense were given over to preliminary discussions on procedure and messages from Petroleum Coordinator Harold L. Ickes and representatives of Congress.

Fifty-nine of the council's 72 members attended. Representatives Clarence F. Lea of California and William P. Cole, Jr., of Maryland attended in their capacity as members of the House subcommittee on petroleum.

Announcement of proceedings at the meeting was to be made late in the week.

Membership of the council had recently been increased by the addition of five district chairmen of natural gas committees and D. P. Hamilton, president of the Root Petroleum Co., Shreveport.

OPA Establishes Maximum Prices for Paraffin Wax

By H. STANLEY NORMAN

WASHINGTON, D. C., Feb. 3.—Maximum prices for paraffin wax were established last week by Leon Henderson, administrator of the Office of Price Administration. The schedules issued by the OPA eliminate freight-equalization provisions. In eliminating the basing points from the schedule, the lineup of prices, effective January 30, substitutes an "f.o.b. seller's shipping point" basis for the determination of maximum prices. Originally, Whiting, Ind., New York, Philadelphia, Pa., Texas Gulf ports, New Orleans, La., and Baton Rouge, La., were specified as basing points.

However, producers of refined wax are permitted to continue their normal business practice with respect to basing points.

The amendment provides a margin of $0.0040 per pound for export shipments of 10,000 lb. or more, except rail shipments to Canada or Mexico, on which it is allowed $0.0025 per pound.

Maximum prices for crude scale and semirefined wax, formerly classified in two groups graduated by different melting points, are consolidated because of the slight difference in the two classifications. Several intermediate grades are added, so that the grading in crude and semirefined runs from 122-124 to 134-136 A.m.p., inclusive. In the fully refined grades the range is from 120-122 to 149-151 A.m.p., inclusive.

Small Cakes Eliminated

Also, a 10-point (0.1 cent) differential over the 100-kilo bag price is added for wax sold in 50-kilo bags. (A kilo equals 2.2 lb.)

Small cakes of wax weighing 2 lb. or less, such as wax sold for household use, are eliminated from maximum-price provisions. Mr. Henderson, however, warned that maximum prices for these small cakes will again be included in the schedule if prices get out of line.

The amended schedule also establishes maximum prices for slabbed crude scale and semirefined paraffin waxes at 20 points (0.2 cent) above the maximum prices for crude scale and semirefined in solid forms.

Refiners had declined to quote prices on the spot wax market for several months, awaiting clarification of the OPA's policy. The prices fixed by Mr. Henderson last week are substantially below the spot quotations prevailing before his original imposition of a ceiling. The section of Amendment 1 to Price Schedule 42 dealing with maximum prices authorized by Mr. Henderson follows:

MAXIMUM PRICES FOR PARAFFIN WAX

(a) Quantities of 10,000 lb. or more.

The following maximum prices, f.o.b. refinery, are established for crude scale, semirefined and fully refined paraffin wax shipped from a refinery in quantities of 10,000 lb. or more:

1. *Crude scale and semirefined:*

(Prices per pound)

	Slack barrels or 100-kilo bags		50-kilo bags		
	Solid	Slabbed	Solid	Slabbed	Tank cars
122-124 A.m.p.	$.0425	$.0445	$.0435	$.0455	$.0395
124-126 A.m.p.	.0425	.0445	.0435	.0455	.0395
126-128 A.m.p.	.0450	.0470	.0460	.0480	.0420
128-130 A.m.p.	.0475	.0495	.0485	.0505	.0445
130-132 A.m.p.	.0500	.0520	.0510	.0530	.0470
132-134 A.m.p.	.0525	.0545	.0535	.0555	.0495
134-136 A.m.p. or higher	.0550	.0570	.0560	.0580	.0520

2. *Fully refined:*

(Prices per pound)

	Slabs loose	Bags	Tank cars
120-122 A.m.p.	$.050	$.054	$.0495
123-125 A.m.p.	.052	.056	.0515
125-127 A.m.p.	.052	.056	.0515
128-130 A.m.p.	.056	.060	.0555
130-132 A.m.p.	.0585	.0625	.0580
131-133 A.m.p.	.0585	.0625	.0580
133-135 A.m.p.	.0615	.0655	.0610
135-137 A.m.p.	.064	.068	.0635
138-140 A.m.p.	.0715	.0755	.0710
141-143 A.m.p.	.0765	.0805	.0760
143-145 A.m.p.	.0810	.0850	.0805
146-148 A.m.p.	.0930	.0970	.0925
149-151 A.m.p.	.1050	.1090	.1045

In the case of a shipment of crude scale, semirefined or fully refined paraffin wax from a seller's shipping point other than a refinery, the maximum prices are the prices listed above, plus the actual transportation charges from the refinery at which such wax was last processed to such seller's shipping point, f.o.b. such seller's shipping point. Such transportation charges shall be shown as separate items on all records and invoices.

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Ickes Feels Eastern Situation May Require Special Action

By HENRY D. RALPH

WASHINGTON, D. C., Feb. 2.—A hint that the new War Production Board may be asked to reconsider the action of its predecessor SPAB and allocate steel for the construction of a big oil pipe line from Texas to the New York Harbor area was dropped last week by Harold L. Ickes, secretary of the interior and petroleum coordinator for national defense.

But it was only a hint, for Mr. Ickes very obviously is following a studied policy of refraining from sticking out his neck publicly on predictions of an oil shortage. At his first press conference in several weeks the secretary dodged all questions about the possibilities of an oil shortage, in marked contrast to his headline-making statements of last summer, before the Maloney committee of the Senate announced that there was only a shortage of surplus and criticized him for his alarming predictions of an acute shortage.

Asked several times if there is an emergency petroleum-supply situation in the eastern states as a result of tanker sinkings and diversion, he replied: "I am not even going to talk about an oil shortage. The best way is to wait and let the brick hit you on the head." He admitted that the situation is tighter than it was and if things get worse it will be his responsibility to do something about it, but he refused to be drawn into any discussion of the subject.

Mr. Ickes reported that oil companies marketing in the East have increased their railroad tank-car shipments by 86 per cent in the past 2 weeks, after a period of declining rail movements when the tanker situation was easier. He expressed concern over the supply of petroleum products to northern California, Washington and Oregon, normally supplied by tankers, because the railroads serving that area from southern California are single-track lines and may not be able to handle sufficient tank-car traffic.

If the "defense" pipe line had been started when he proposed, Mr. Ickes said, it would now be carrying oil as far as the Middle West, and the remainder of its construction would be well advanced.

Asked about the complaint of the governor of Colorado that that state's oil production quota is so low that Colorado has to import oil from other states, Mr. Ickes declared that he has no patience with "that provincial point of view," and that the situation was only a "minor political problem" affecting one state.

The coordinator was asked a number of detailed questions about possible changes in regulatory activities of the OPC, but declared he was not sufficiently familiar with details to discuss them. Regarding reports that a new OPC district office might be created, or branch offices of existing districting headquarters established, Mr. Ickes said that no occasion for such has been shown as yet but that he wants to do whatever is right and reasonable, and that if such changes are shown to be necessary he will approve them.

In answer to another question Mr. Ickes said he had heard no complaints from oil companies that the Navy is buying fuel oil at prices higher than the ceilings set by the Office of Price Administration.

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Amendments to P-98 Expected To Be Issued Soon

WASHINGTON, D. C., Feb. 2.—Amendments to General Preference Order P-98 are in the process of being drawn up and are expected to be issued in the near future. While no details of the amendments are available, it is understood that the major change will be in the procedure whereby the Priorities Division of the War Production Board keeps a check on the uses of materials obtained with the aid of the order.

As originally drawn up the order provided that all preference ratings granted under its terms must be countersigned by the district office of the Petroleum Coordinator's Office nearest to the supplier.

However, this provision has caused a storm of protest within the industry, and a new procedure is to be substituted. This is expected to take the form of inventory control and periodical reports of sales under the priority order.

Each manufacturer or supplier will be required to submit to periodic audits by the Priorities Division and must submit reports as prescribed by the WPB. Penalties for violations of the provisions of the order, or for selling to unauthorized persons will be handled in the same manner as is prescribed in a number of other priority orders. That is, for violation of the order itself, such as in the case of any person who wilfully applies the preference rating assigned by P-98 in violation of the terms of the order, will be forbidden to further apply the rating.

In addition, such a violator may be prohibited from obtaining further deliveries of materials needed in his operation and be deprived of all other priority assistance. If any person should make any false statements in his reports to the governmental agency, he would be liable to a large fine or imprisonment, or both, for making such false statements.

PRIORITIES: OPM Representatives Give Answers to Some Questions Which Have Confused Oil Operators

QUESTION: We understand that the War Production Board has granted a blanket exception to M-68 in eastern gas-producing fields. Can you advise whether this is true and give details on the action?

ANSWER: The exception to which you refer is limited. The WPB last week granted exception to M-68 on natural-gas wells in the states of Kentucky, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia or West Virginia which had been actually started on or before December 23, 1941, and they may be completed. This means that an estimated total of 160 locations upon which some type of work had been started short of actual drilling prior to December 23 may be drilled without regard to the spacing limitations in the original M-68 order.

In addition, the War Production Board's division of industry operations provided for inclusion of condensate, or distillate wells and fields in Conservation Order M-68 in the second amendment to the regulation. Amendment 2 to Conservation Order M-68 reads as follows:

"Section 1047.1 (Amendment No. 1 to Conservation Order M-68, paragraph (c) (9) is hereby amended to read as follows:

"(a) To any case where material is to be used by an operator to complete or provide surface connections for any well in any discovered or undiscovered gas field or condensate field where such well has actually been 'spudded' on or before December 23, 1941, and to any case where material is to be used by an operator to drill, complete, or provide surface connections for any well in any discovered or undiscovered gas field in the states of Kentucky, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, or West Virginia where such well had actually been 'spudded' or where operations at a determined location had commenced on or before December 23, 1941, and had been suspended on or before January 15, 1942.

"(b) This amendment shall take effect immediately."

The order was issued January 28, 1942.

QUESTION: I understand there has been a revised OPC Form PD-214b issued and I would like to know the exact wording of the form as it now stands. Can you supply this information?

ANSWER: Here is the text of the revised OPC Form PD-214b.

INFORMATION REQUIRED TO OBTAIN AN EXCEPTION FOR
THE DEVELOPMENT OF ANY PROPERTY BY ANY OPERATOR
IN ANY OIL, GAS OR CONDENSATE FIELD

Address all communications to Robert E. Allen, director of production, Office of Petroleum Coordinator, New Interior Building, Washington, D. C.

To obtain an exception, as provided in Paragraph (c) (10) of Amendment No. 1 to Conservation Order M-68, to cover the future development program of any property in any oil, gas or condensate field, it is necessary for the Office of Petroleum Coordinator to determine the relationship of the specific case to other national defense needs. In order to perform this function, the Office of Petroleum Coordinator must receive from the applicant a statement in quadruplicate containing the following information:

A. Name and address of applicant.

B. Name and location of field and properties where requested materials and equipment are to be used.

C. Applicant's proposed future development or construction.

1. Number and spacing of wells on group of properties owned, horizon or horizons from which each well produces, depth to producing horizons and thickness of each producing well; location of the proposed well or wells for which exception is asked and the horizon or horizons from which each is expected to produce. Also supply this data on a plat or map.
2. Describe other proposed plants or facilities.
3. Material requirements, segregated for (a) wells and lease equipment, (b) gathering lines and pipe-line systems, (c) other plants or facilities.

D. Indicate all reasons justifying the granting of an exception as provided in Paragraph (c) (10) of Amendment No. 1 to Conservation Order M-68, together with such supplemental data as will clearly show the relationship of the applicant's needs to the national defense program.

E. Each application for an exception shall bear the following certification executed in quadruplicate:

The undersigned hereby certifies to the Director of Priorities that:

1. The foregoing application has been executed on behalf of and by authority of the above named applicant;
2. The facts stated in the foregoing application are, to the best of my knowledge and belief, true and correct;
3. If the exception hereby applied for is granted, use of material existing in stock or obtained by means of any applicable preference rating certificate or order will be made solely in accordance with the terms of the exception which has been granted, and, further, solely in accordance with the provisions of Amendment No. 1 to Conservation Order M-68.

.....
(Date)

.....
(Signature and Title of Official)

Section 35 (A) of the United States Criminal Code, 18 U.S.C.A. 80 makes it a criminal offense to make a false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

Reichert Director of Materials, District 5

Appointment of Charles T. Reichert, of National Supply Co., as district director of materials for District 5, was announced late last week by Deputy Petroleum Coordinator Ralph K. Davies.

Mr. Reichert's first experience with the oil industry came when he worked as a roustabout in the San Joaquin Valley fields of California. For 2 years he was employed in field store operations by the old Associated Supply Co., and then, in 1917, became connected with the National Supply Co. He was associated with this company for 16 years, serving in various capacities, including that of engineer in charge of research on absorption-plant methods.

Mr. Reichert became general manager of sales for the Grant Oil Tool Co. of Los Angeles, Calif., in 1933. The following year he engaged in general sales activity for the Petroleum Equipment Co. of Los Angeles, specializing in field-store operations, and in 1935 returned to National Supply Co. as sales engineer and manager of the production-equipment division.

In his new assignment, Mr. Reichert will assist suppliers and the oil industry in District 5 generally in the solution of priorities and other problems related to the procurement of essential supplies, equipment, and materials.

QUESTION: If service-station operators are unable to acquire new dispensing pumps and tanks under restrictions imposed by M-68, what provision has been made for protection of independent operators who are using equipment loaned or leased from their supplier?

ANSWER: This problem was the subject of a new recommendation issued last week by the OPC. There are two main provisions in the recommendation. The first, requiring notice of intention to remove materials, reads as follows: "No person having the right to remove from the premises of any operator any material operated by such operator, whether by reason of the termination of a supply arrangement at the election of either, or for other reason, shall do so until he shall have given reasonable notice in writing, not less than 30 days, of his intention so to remove such material, or until he shall have received the prior consent in writing of such operator."

The second provision grants the option to buy privilege to operators. It reads: "Any operator having received notice from any person of intention to remove any material shall have the option for the period fixed in the notice but not more than 60 days from the giving of the notice, to purchase or complete the purchase, or procure another person to purchase or complete the purchase, of the material covered by such notice, and on the exercise of such option, such person shall sell or complete the sale of the material covered thereby in accordance therewith at a reasonable price based on original cost less reasonable depreciation. During any such option period, the operator shall have the right to use the installed material and to authorize its use by any person for the purpose of supplying the operator with petroleum."

STATE CAPITALS...

OKLAHOMA

THIRTY OLD OIL FIELDS were brought back under proration by the state Corporation Commission in its February allocations order which was signed by the three commissioners and issued Monday, after 4 days of conference.

Total allowable for the state was set at 395,330 bbl. daily, as recommended by Secretary Ickes, petroleum coordinator; it compared with the state's January allowable of 425,000 bbl. daily, and actual production of around 416,800 bbl. daily.

The commission's findings set out that purchasers' demand for February is 436,000 bbl. daily, and that a minimum of 425,000 bbl. could be produced without physical waste. But recognizing the state of emergency and action of the coordinator, the OPC's recommendation was accepted.

The order removes the fear of proration of stripper wells, at least for the month, stating that in order to prevent premature abandonment, "all of said stripper wells should be permitted to produce at capacity during the month. . . ."

Pipe-line companies are directed to "take from such stripper or unprorated wells all of the oil that can be produced therefrom before production is taken from the flush or prorated fields. . . ."

The commission also ordered that in determining allowables no lease in any prorated pool should be reduced below 25 bbl. of oil per day. (And conservation officers explained this means "lease," not "wells.")

Departing from previous orders, the commission "froze" all potentials of wells in prorated areas, but provided that new wells may take a 48-hour test upon which allowables might be fixed. (On the 48-hour test the amount will be divided by two and the allowable based on that figure.)

All underproduction on wells and leases, except where same is less than 1 day's current allowable, is canceled as of first of the month. All overproduction as of January 1 is deducted from the February current allowable.

After making adjustments in all the prorated areas, based on December's runs and adding the 30 fields to the prorated class, the commission made a horizontal cut of 14 per cent in all except two pools. The Apache and Frederick deep pools were cut back 14 per cent on basis of January runs, and the Frederick deep zone was granted a marginal of 43 bbl. daily.

LOUISIANA

NOTICE TO OPERATORS regarding policy toward exceptions to 40-acre spacing requirements was issued by the Department of Conservation. It read:

"You are advised that this department discourages the filing of permit applications for oil and gas operations when such applications do not plainly disclose compliance with such orders relating to the use of materials or where the applications do not indicate an exception to such rules, regulations, and orders may be granted by the Office of Production Management.

"It will not be the disposition of this department to grant a well allowable except where evidence of compliance with such rules, regulations, and orders of the OPM as to the use of materials in such well has been filed with this department."

THE MINERALS DIVISION of the state Conservation Department has set Louisiana's daily oil production allowable for February at 344,955 bbl. of which 270,978 bbl. is allocated southern Louisiana fields and 73,977 North Louisiana areas. This is an increase of 15,779 bbl. for the south state and 377 bbl. in North Louisiana, or 16,150 bbl. for the state. The February total compares with a recommended daily production of 335,000 bbl. by the Office of Petroleum Coordinator.

TEXAS

NET ALLOWABLE for the beginning of February is placed by Texas Railroad Commission order at 1,606,389 bbl. after deduction of 7 shutdown days. These are February 4, 8, 14, 15, 21, 22, and 28. The OPC recommendation is 1,596,000 bbl. and after deducting an estimated underproduction of 3.9 per cent, the commission estimates that average daily production will be 1,543,738 bbl., or 52,262 bbl. under the OPC figure.

Of the 62 fields earmarked for aviation-naphtha production (see The Oil and Gas Journal, January 15, Page 52) daily allowable has declined 2,310 bbl. to 446,007 bbl., or 0.5 per cent compared with a decline of 2.2 per cent for the state as a whole.

Commissioner Sadler stated that Texas is producing about 12 per cent too much standard gasoline and that more fuel oil, lubricating oil, and high-octane gasoline is needed. It is understood that some of the 52,000-bbl. deficiency from the OPC estimate would be made up by natural gasoline, not heretofore included in allowable tables.

Hearing on Humble Oil & Refining Co.'s petition for a revision in rules of the Hawkins field, Wood County, Texas, to meet requirements of OPM order No. 68 for 40-acre spacing, has been postponed by the state Railroad Commission until February 17. The hearing originally was scheduled January 29.

CALIFORNIA

THE CONSERVATION COMMITTEE of California Oil Producers and the Production Committee of District 5 have been working on the breakdown of 632,300 bbl. daily recently set by the petroleum coordinator. E. E. Pyles, chairman of the production committee for District 5, has been in Washington attending a meeting, and it is understood that he will discuss the California situation with the coordinator before returning. Immediately upon his return the conservation committee and the production committee will finish preparing the allotments for fields for the month of February. Due to disrupted transportation facilities and numerous other factors it has not been possible to adopt the new plan in its entirety. Consideration will be given to the types of crude oil to be produced as well as the stripper-well problem. Contrary to general belief, the committee has not decided definitely how to handle the marginal wells although those in the very small production group may possibly be allowed to produce to the maximum as most of them produce a heavy crude oil which has been in good demand. Transportation problems still confront the committee, making it very difficult to determine which fields should produce and which should be restricted. Some consideration may be given to the possibility of producing fields adjacent to refining centers and especially those that require very little handling as far as pipe-line movement is concerned.

KANSAS

DAILY OIL ALLOWABLE for Kansas during February has been set by the Corporation Commission at 251,700 bbl., a reduction of 1,900 bbl. from the January order. Included in the February allowance is 250,100 bbl. for current wells and 1,600 bbl. for new wells to be completed during the month. The February order complies with the figure recommended by Harold L. Ickes, petroleum coordinator, and based on the new theory of "allowable on a reserve basis."

MICHIGAN

MICHIGAN OIL PRODUCTION in February will be cut 5,000 bbl. a day below the estimated firm refining demand to meet the federal recommendation of 47,000 bbl. daily. A direct appeal to the Office of Petroleum Coordinator is being prepared asking for relief from the federal quota.

To meet federal figures, all prorated fields will be cut to 150 bbl. per well daily the first half of February and 125 bbl. per well the last half. The new schedule represents a reduction ranging from 25 bbl. a well in Reed City to 100 bbl. per well in Roscommon.

ILLINOIS

ILLINOIS OPERATORS may file exceptions to federal rulings governing drilling of one well to each 40-acre tract, but government rules promulgated December 23, 1941, will not be changed at present, G. C. Curtis, superintendent of the state Oil and Gas Conservation Division, announced January 30 following a conference in Chicago with Wirt Franklin, regional OPC director.

Mr. Curtis and Samuel F. Peterson, chief petroleum engineer of the state agency, said they sought a meeting with Mr. Franklin because "approximately 2,500 requests for exceptions to OPC orders have been filed by Illinois oil operators."

The state officials said oil men in the state are seeking modification of rules to permit drilling of one well on 20-acre tracts, together with a change to permit drilling so that the maximum amount of oil could be recovered from any pool. They said they told Mr. Franklin that unless OPC orders were modified a large quantity of oil would be wasted.

The engineer said a poll of opinion conducted by his office among Illinois operators revealed "a common desire on their part for a federal official assigned to handle Illinois' problems alone and with a greater measure of close cooperation."

"Mr. Franklin," he said, "is not to blame for a rapidly worsening condition of the state's petroleum industry. He is acting on orders and has shown every courtesy possible to our representatives."

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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An Immediate Requirement

The increasing confusion in the oil country as to the meaning and scope of war policies affecting oil operations will reach serious proportions if not ended soon. While operators and those who serve them are compelled to stand on the sidelines awaiting the answers to many questions, there is a steady stream of new developments which are disturbing to those who had hoped for the early establishment of a clear-cut program around which the industry could rally.

Operators returning from the nation's capital agree there is no general appreciation there of what the petroleum industry has to do as regards operating levels in carrying out its part of the war program. Their observations have nothing to do with the activities of OPC. The criticisms go higher than the work of the coordination office for petroleum established by the president.

Petroleum's position was indicated in the recent appointment of the War Production Board. By no stretch of the imagination is the oil business represented in the personnel of this all-powerful group with its complete control over production. Other industries which are being called upon for major contributions in war output have representation on the board or its affiliated bodies, as they did in defense organizations which preceded it.

Here is an industry which because it was prepared has given this country and its allies the only advantage they have had so far over their enemies. The most casual observers of the 30-month conflict know what would have happened if the Allies and their supporters had been no better prepared with oil than they were in practically all the other materials and products required in modern warfare.

War commentators agree that the lack of petroleum is the greatest weakness of the Axis and the necessity of acquiring large supplies has directed its primary military efforts. Its leaders know that failure to supplement their present oil supplies means certain defeat.

At home the nation's economists are aware that the significance of petroleum extends from the crossroads to the most densely populated areas, touching every activity of 130 million people, including the contributions they will make as civilian or soldier to the country's defenses and offensives.

Despite all this there is a growing feeling among operators that so far as Washington is concerned, this industry is little more than a whistling post along the war route which is being ignored in favor of those activities which have a year or more to go before they can join petroleum in the conduct of a full-scale war.

The immediate and long-range requirements of the nation and its friends make it mandatory that new war policies are not adopted until their importance in relation to oil is fully understood. Government officials must understand this industry can only keep prepared and make the additional contributions now being requested, by continuing near-normal operations.

Federal officials must appreciate that in several states petroleum is the principal industrial activity. Unwise changes in practices through the application of regulatory powers will destroy important operations within the industry and will have political and business reactions over a large area.

For the entire country, Washington must realize that a return to a horse-and-buggy economy in civilian activities through the freezing of motor-vehicle use will inevitably mean a drop to the same levels in the production of war materials.

These and many other considerations of the emergency demand that petroleum be represented directly in the highest war councils.

VIEWS for VICTORY

Industry Must Go All-Out To Supply Nation's Needs

By LOUIS A. GRELLING
Independent Operator, Tyler, Tex.

WHILE doing everything possible in the way of conserving and saving within the petroleum industry, we should also be giving everything that we have in the way of clear thinking, energy, effort and speed to satisfy all the demands made upon us by our Government for the requirements of our Army, Navy and Air Force. We must keep the thought constantly in our minds to go all-out to win this war as quickly as possible.

Petroleum is the essence of modern warfare, and with this in mind we must realize the constant and unprecedented depletion of our oil reserves and the necessity for maintaining a program of exploration, speedily initiated and intelligently prosecuted, not only to supply our present emergency requirements but also to provide for the needs of future generations.

Natural-Gasoline Industry Faces Radical Adjustments

By W. K. WARREN
President, Warren Petroleum Corp.

THERE is every indication that the war effort in 1942 will bring manufacturing and marketing changes of a revolutionary character to the entire natural-gasoline industry. These changes will be more pronounced in some areas than in others, depending, of course, on the relative locations of the natural-gasoline plants and the war industries they serve, and it is doubtful if any area will entirely escape this change.

These changes will be brought about by the tremendous demand for high-octane aviation fuels, in the wake of the stupendous airplane-building program that has been drafted for 1942 and 1943.

Additional changes also will be brought about by the equally great, if not greater, demand for products of the natural-gasoline plants in connection with the vast synthetic-rubber program now being set in motion in Washington.

Natural gasoline, as the industry has known it for so many years, very likely will lose its place as the major product of a natural-gasoline plant, and will be relegated to the position of a by-product.

The liquefied petroleum gases—heretofore considered byproducts even at plants which extract them—appear destined to surge to the front as major and vital products. It is entirely likely that many plants which have heretofore failed to extract these gases will do so in the future, or, the products of these plants may be moved to some central location for extraction of the greatly needed materials.

Higher Oil Price Needed To Spur New Development

By WARWICK M. DOWNING
Colorado Representative,
Interstate Oil Compact Commission

OUR greatest need for the future is efficiency in government. Such efficiency will save thousands of American lives, will save billions of treasure, and will bulwark our public morale.

Our public officials are not perfect. In a democracy, mistakes must be expected. But it is the very essence of democracy for every citizen to demand the very utmost from our public officials. The loyal opposition is almost as important as the Government.

Concerning the oil industry, beyond the slightest question our greatest need is the development of new sources of petroleum supply. Our need is probably greater than we now realize. The only possible basis for the necessary development work is a fair, reasonable price for crude. This has been urged upon the authorities at Washington by the Interstate Oil Compact Commission, by the Independent Petroleum Association of America, and by the unanimous voice of the petroleum industry. Yet for something like 4 months the matter has been "under consideration" by our Washington authorities. The matter has been practically shelved by a reference to the Tariff Commission for a lengthy, unimportant investigation, which in the end will mean nothing. We should demand that our senators and congressmen insist upon the necessary price increase now.

Likewise, Secretary Ickes should encourage development on the public lands by reducing the royalties to the universal one-eighth, and by liberalizing the lease form. Our public lands have not been explored by late scientific methods, and if adequately developed, will materially help to furnish the petroleum vital to win the war.

Greater Cooperation of Government Is Required

By L. H. PRICHARD
President, Anderson-Prichard Oil Corp.

THE oil industry enters 1942 in a key position in so far as the importance of our war effort is concerned. If we will require and if we provide the increase in production of crude and the proper refined oil products as has been indicated by those in authority at Washington, we indeed have a major task. I feel that, to aid in accomplishing this, some advance in the price for crude oil should be granted, together with a corresponding advance in refined-oil products all the way from the refinery to the consumer. We have already absorbed very substantial increases in our costs all the way from prospecting through transportation, refining and marketing. Our price structure has not increased in anywhere near the same proportion as other commodities of like importance. We don't want runaway prices but we are entitled to a structure that will compensate for the partial exhaustion of this natural resource.

Our Government, through its various departments that consume petroleum products, should cooperate with the industry and adopt specifications that are actually in line and perform the service actually required. Using a superior grade of product where a more inferior grade would serve just as effectively and much more economically is a waste and helps to precipitate shortages before there is any real reason for them.

I believe the industry can perform the job that has been assigned but it will take a more perfect coordination than we have as yet experienced. No effort should be spared to bring this about as quickly as possible. Our companies are making plans to carry on and contribute everything toward doing the job 100 per cent.

Discovery-Rate Increase Is Objective of Industry

By N. W. SHIARELLA
President, Kentucky Oil and Gas Association

WITH the demand for petroleum products increasing very rapidly, one of the principal objectives of the industry in 1942 should be to make every effort possible to increase its discovery rate. In order to accomplish this objective, it will necessitate the cooperation of the major companies with the independent producers so that a greater number of exploratory wells may be drilled. It will also require the cooperation of the federal Government to the extent that the operators will be allowed a price for their product that will assist them in the financing of more exploratory wells.

The average producer does not look forward to making large profits in 1942 because he knows that eventually these large profits would be taken from him by the necessity of larger taxes to finance this war, but he feels that he would like to have a large enough return so that he could render some service to his country by trying to find the much needed reserves that will be required for the present national emergency.

WPB Order Would Limit Uses And Customers of Natural Gas

WASHINGTON, D. C., Feb. 2.—Plans to take care of any shortage in natural gas, in order to make certain that defense industries will not have to curtail operations, is being prepared by the Division of Industry Operations of the War Production Board.

The division has prepared an order limiting the uses and the customers which may be served in the event of a shortage and ordering gas companies serving defense industries to make deliveries to war-production plants in case such a shortage develops.

Tentative Draft of Order

A tentative draft of the limitation order (L31) follows:

Whereas, Shortages of natural gas for war production, essential civilian and other uses exist in certain areas of the United States and are threatened in others because of increased gas requirements for war industries and civilian uses; and

Whereas, During periods of adverse temperature and wind conditions the demand for natural gas in many areas will increase beyond the capacity of existing facilities to meet such demand; and

Whereas, The limitations upon deliveries of natural gas and the integration of gas production, transmission, distribution, and storage facilities hereinafter ordered are necessary in order to maintain gas deliveries to war industries and essential civilian services;

Now, therefore, it is ordered that;

Part 1056.1—General limitation order

A. *Definitions.*—For the purposes of this order:

1. "Person" means by individual, partnership, association, business trust, corporation, governmental corporation or agency, or any organized group of persons, whether incorporated or not.

2. "Utility" means any person in the United States supplying natural gas or mixed natural and manufactured gas, directly or indirectly, for general use by the public.

3. "Consumer" means an ultimate user of gas purchased or otherwise received from any utility.

4. "Standby facilities" means equipment in serviceable operating condition designed to use oil, electricity, coal or other fuel to replace natural gas, and for the operation of which a supply of such fuel is available.

B. *Integration of gas-system operation.*—Each utility shall so operate its production, transmission, storage, distribution, and other facilities, and shall so interchange gas with other utilities as to achieve as far as practicable maximum output in the area or areas in which a shortage exists or is imminent, and each utility shall make such pooling arrangements as may be necessary to effectuate such purposes. Where necessary for such purpose, the director of industry operations will, from time to time, issue specific orders or directions as to the operation of production, transmission, storage, distribution, and other facilities, and as to deliveries of gas.

C. *Notice of shortage.*—Whenever a shortage exists or is immediately threatened in the area served by any utility, such utility shall immediately notify the power branch thereof by telegram, and shall continue to furnish the power branch all pertinent information during the period of shortage.

D. *Limitation on deliveries of gas.*

1. Whenever a gas shortage occurs in an area served by any utility:

(*i*) No utility supplying such area shall deliver gas to any consumer in such area who has standby facilities and no such consumer, upon receiving notice from the utility that such a shortage exists or is immediately threatened, shall accept deliveries of gas from any utility, unless such standby facilities are being operated in such a manner as to effect the maximum reduction in the consumer's requirements for purchased gas; and (*ii*) no utility supplying gas to such area shall, by agreement, arrangement, or by exercising rights under existing agreements or arrangements, or by other means, reduce or cause the reduction of gas deliveries to any consumer, in excess of the capacity available from consumer-owned standby facilities, unless such utility is operating at maximum capacity all its gas-manufacturing equipment which can, directly or indirectly, increase the supply of gas in such shortage area.

2. In the event that the supply of gas available in such areas is insufficient to meet the demand after full operation of standby facilities as provided in paragraph (D) (*i*) above, and further reduction in gas deliveries becomes necessary,

(*i*) The utility supplying gas to the area shall reduce deliveries to its consumers in accordance with such directions as the director of industry operations may therefore have given: or

(*ii*) If no specific directions have been issued by the director of industry operations, any reduction in deliveries to consumers, which a utility may otherwise be entitled to make, shall, as far as practicable, be made first, to those consumers whose decreased operations will interfere least with war or defense production. Whenever any utility finds it necessary to make any reductions in deliveries of gas to any consumer, in accordance with this subparagraph (2) (*ii*), it shall, at the same time that it notifies the consumer of such reduction, prepare and file Form PD-282 with the power branch, War Production Board.

3. Following each such shortage period, each affected utility shall submit a detailed report of the quantities of gas conserved by the operation of standby equipment and the duration and extent to which each industrial consumer was curtailed. Such report shall be filed on Form PD-28.

4. Any consumer who considers that any reduction in deliveries to him interferes materially with war or defense production shall have the right to apply by telegram to the power branch, War Production Board, for relief. Such application shall state the nature of the war materials being manufactured, the extent to which production has been curtailed because of reduced delivery of gas, and the increase in delivery of gas required for restoration of full production.

5. No consumer shall be relieved of the requirements of section 944.2 or any other section of Priorities Regulation No. 1 amended, by reason of the provisions of this paragraph (D).

E. *Prohibition against delivery to new space-heating installations.*

1. No utility shall deliver and no consumer shall accept delivery of natural gas or mixed natural and manufactured gas in the areas specified in Exhibit "A" annexed hereto, as the same may be amended or modified from time to time by the director of industry operations, for the operation of central space-heating equipment or heating requirements of the premises, unless such equipment was installed prior to March 1, 1942, or unless, in the case of new construction, the equipment was specified in the construction contract, and the foundations under the main part of the structure was completed on March 1, 1942.

2. No utility shall deliver and no consumer shall accept deliveries of natural gas or mixed natural and manufactured gas in the areas specified in Exhibit "A," annexed hereto, as the same may be amended or modified from time to time by the director of industry operations, for the operation of central space-heating equipment or heating equipment supplying the major portion of the heat requirements of the premises, which has been converted from other fuel to natural or mixed natural and manufactured gas unless such conversion has been completed prior to 10 days after the effective date of this order.

3. Any utility which considers that its supply of gas and its production, transmission, storage, distribution, and other facilities are adequate to take care of all existing and estimated future requirements of war industry, and unrestricted civilian use for the period ending April 1, 1944, may appeal for exemption from the provisions of this paragraph to the director of industry operations, who may grant such exemption or take such other action as may be consistent with the purposes of this order.

F. *Appeal.*—Any person affected by this order who considers that compliance therewith would work an exceptional and unreasonable hardship on him may appeal for relief to the director of industry operations who may grant such specific exemptions or take such other action as he shall deem appropriate.

G. *Reports and information.*

1. Each utility shall keep and preserve for not less than 2 years accurate and complete records concerning deliveries of natural gas to consumers. Such records shall be subject to inspection by duly authorized representatives of the War Production Board.

2. All persons affected by this order shall execute and file with the War Production Board such reports and questionnaires as said office shall, from time to time, request.

H. *Violations.*—Any person affected by this order who falsifies records or reports which he is required by this order to keep or file, or who violates any other provision of this order, or any other regulation or direction issued by the director of industry operations, may be prohibited from delivering or receiving natural gas or any other material subject to allocation by the direc-

(Continued on Page 24)

OPA Maximum-Price Schedule Based on October 1 Prices

WASHINGTON, D. C., Feb. 3.—Maximum prices for petroleum and petroleum products at levels already prevailing as a result of OPA requests and voluntary agreements made by members of the industry are established in Price Schedule 88, it was announced today by Leon Henderson, administrator of the Office of Price Administration.

The schedule is effective at once and the prices established are those posted for crude petroleum and the lowest quoted for petroleum products on October 1, 1941.

Provisions are made, however, for special situations, covered in specific agreements and price schedules already effective.

One change from current price-establishment prices is the setting of October 1, 1941, instead of November 7, 1941, as the base for refined petroleum products. This was done, Mr. Henderson explained, to conform with provisions of the price-control act, which requires consideration to be given to prices prevailing in the period October 1 to October 15, 1941. However, relatively few changes in prices are expected, since prices as of October 1, 1941, and November 7 are in general at the same level.

Mr. Henderson also pointed out the necessity for maximum prices during the period of war activities. Inflationary increases in the price of petroleum and petroleum products, he said, not only would be multiplied in the whole structure of costs and prices, but would also directly increase the cost of living and the cost of supplying the armed forces.

Price stabilization in the petroleum industry was initialed on the basis of informal agreements between the Office of Price Administration and members of the industry. The increasing scope of control and the growing multiplicity of informal agreements and understandings, however, made it desirable that they be consolidated into a single formal price schedule. This will serve two purposes: to clarify the price policies of OPA and to protect the industry and the public from the effects of unwarranted price increases.

The schedule covers all types of petroleum and petroleum products with the exception of asphalt, industrial lubricating oils, industrial naphthas and solvents, greases and special products such as household oils and spot removers.

Maximum prices established include those on all domestic, export and import transactions, sales, transfers, exchanges or purchases of crude petroleum, and on all domestic, export and import transactions, sales, transfers or exchanges of petroleum products, involving contract, bid or spot sales of crude petroleum at the well, the gathering point, tank farm or terminal and of petroleum products for cargo or barge shipment, harbor, refinery, terminal, tank-car and tank-wagon delivery.

Prices for petroleum products sold at retail by service stations, garages and stores are not governed by the schedule.

The posted prices for crude petroleum as of October 1, 1941, are established as the maximum prices except that if premiums were being paid under contract on that date the premium payments still will be allowed on refined products. The price is determined by the lowest posted or quoted prices published in the first issues of designated trade journals on or after October 1, 1941. Where no price was published in those issues for a product in a particular market, the price applicable to the last sale prior to October 15 will govern. In the event that the price cannot be determined by either of these methods, the maximum shall be the actual price prevailing at the point in question on October 1.

In addition to the general price levels established, the schedule confirms previously approved prices for crude oil in various regions: North and North Central Texas, southern Oklahoma, and one location in Louisiana. Pennsylvania Grade crude oil is covered by Price Schedule 22, already in force.

The schedule also embodies formal maximum prices covering various products on which either informal or formal arrangements already have been effective:

1. It permits 0.3 cents per gallon increase for all grades of gasoline sold in 15 eastern and southern states and the District of Columbia, to compensate for high transportation costs necessary because of diversion of tankers to defense and lend-lease use.

2. It permits the adjustment of subnormal tank-wagon prices in certain areas of Iowa, Ohio, and Wisconsin.

3. It formalizes a previously approved adjustment of tank-wagon prices in Maryland and Virginia in territories adjacent to the District of Columbia.

4. It specified prices for Bunker C and No. 6 fuel oil on the Gulf and East coasts as set forth in Price Schedule 72, made effective on January 9, 1942.

The schedule also contains maximum prices f.o.b. refinery for Pennsylvania Grade neutral stocks.

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Price-Freezing Order of Minor Importance on Pacific Coast

LOS ANGELES, Calif., Feb. 2.—Price Administrator Henderson's letter of January 17, 1942, outlining and restating policies of the November 7, 1941, price-freezing order, has brought minor revisions in the West Coast's marketing policies. There has been no change in posted prices of crude oil since October 1, 1941. No California refiner is paying more than the generally accepted price for crude oil as published in price schedules issued by Standard Oil Co., Union Oil Co., General Petroleum Corp. and Texas Co. Tide Water Associated Oil Co., Shell Oil Co., Inc., and Richfield Oil Corp. do not publish price schedules but conform with published crude-oil price schedules of other marketers. The price administrator's instructions do not prevent buyers from purchasing crude or refined oil below generally recognized prices and for this reason independent refiners in the Santa Maria Valley field may continue to buy uncurtailed crude-oil production below market. A considerable quantity of uncurtailed Santa Maria Valley crude oil is being sold to local independent refiners at approximately 30 cents per barrel or about 30 cents per barrel below standardized posted prices.

There have been no changes in retail gasoline prices on the Pacific Coast since the November 7, 1941, price-freezing order as evidenced by published records of the retail prices. This does not include the activities of independent resellers who have been "cutting under the canopy" to retail buyers. The California Fair Trade Act gives refiners the privilege of establishing the price at which the various grades of gasoline must be sold but they have not to date elected to take advantage of this prerogative. The refinery market on the Pacific Coast has been quite inactive for several months. The shutting down, and in some cases the dismantling, of refineries has reduced the number of refiners operating and consequently substantially reduced the volume of gasoline traded or sold in the spot market.

Although motor-fuel and crude-oil prices are conspicuously posted and generally recognized in the industry at large, the same cannot be said for natural gasoline. Union Oil Co., Standard Oil Co. and General Petroleum Corp. have posted prices for natural gasoline for several years. These schedules provide that natural gasoline will be purchased in the various fields on the basis of vapor pressure, pounds per square inch, Reid, at 100° F. They are standard forms and are graduated upward from 15 to 66 lb., the lowest vapor pressure commanding the highest price.

Practically all large refiners purchase natural gasoline and pay royalties on this graduated schedule. In contrast with this procedure, it is the practice of independent refiners to buy natural gasoline on the basis of gravity and end points. Some stipulate certain requirements but for the most part it is gravity and range that govern purchases and sales. For the better grades of natural gasoline, independent refiners in recent months have been paying a small bonus above the standard price.

This condition is now being discussed in detail by buyers as it would appear the payment of bonuses or premiums above standardized quotations is in violation of the provisions of the price-freezing order as outlined by the Office of Price Administration on January 17, 1942. Elimination of bonuses for natural gasoline will be to the advantage of independent refiners who have been paying for natural on this basis and will reduce the income of natural-gasoline operators and obviously lead to less efficient operation in processing. It is believed quite probable that when full details have been forwarded to OPA, equitable adjustments will be made as it is not the intention of the office to force a reduction in prices.

WPB Order Would Limit Uses And Customers of Natural Gas

(Continued from Page 23)

tor of industry operations, and shall be subject to any other prohibitions or penalties under existing laws.

I. *Effective date.*—This order shall take effect immediately and, unless sooner terminated, shall continue in full force and effect until April 1943.

(P. D. Reg. 1 amended, December 23, 1941, 6 F. R. 6680; WPB Reg. 1, January 26, 1942, 7 F. R.; E. O. 9024, January 16, 1942, 7 F. R. 239; E. O. 9040, January 24, 1942, 7 F. R. 527; Sec. 2(A), Public No. 671, Seventy-sixth Congress, third session, as amended by Public No. 89, Seventy-seventh Congress, first session.

Issued this day of February 1942.

J. S. Knowlson, director of industry operations.

Exhibit A.

Areas subject to prohibitions contained in paragraph (E) of Limitation Order L-31:

Alabama; Arkansas (only that portion served by the Mississippi River Fuel Co.); California: District of Columbia; Georgia; Illinois; Indiana; Kentucky; Maryland; Michigan; Mississippi; Missouri; New Jersey; New York; Ohio; Pennsylvania; Tennessee; Virginia; West Virginia.

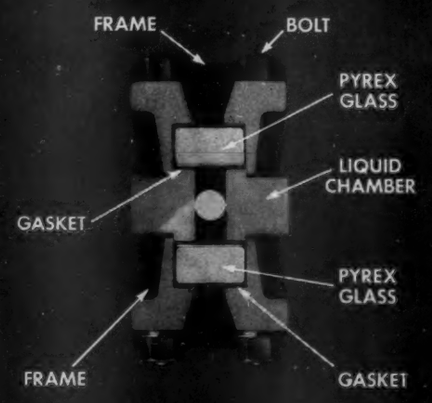
PENBERTHY

DROP FORGED STEEL

TRANSPARENT

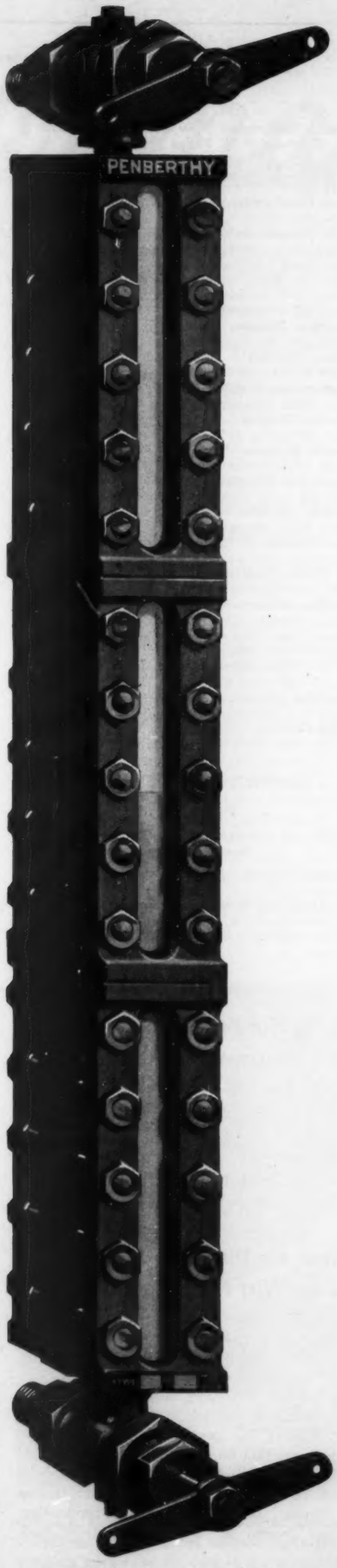
LIQUID LEVEL GAGES

To observe the color or density of liquids under high pressures and/or temperatures



Made of alloy temperature resisting steel. Liquid chamber for single or multiple section gage is made of a solid block of steel the full width of frame to assure perfect alignment and rigidity. Frame has an extra heavy beam at each end and glass chamber is accurately machined to the contour of the glass providing full metal backing for the gaskets. Pyrex glass has greater resistance to thermal shock and erosion.

These gages are available in any length and for various pressures and temperatures. We shall be glad to quote upon your requirements. Write for new Catalog 34-A.



PENBERTHY INJECTOR COMPANY

DETROIT, MICHIGAN

PENBERTHY PRODUCTS

CANADIAN PLANT: WINDSOR, ONTARIO

CONDENSED DIRECTORY OF PERSONNEL OF THE OFFICE OF PETROLEUM COORDINATOR

Interior Department (New Building) 18th and C Streets, N.W. Phone Republic 1820

Coordinator.—Harold L. Ickes, room 6156, extension 500.
Deputy Coordinator.—Ralph K. Davies, room 6654, extension 3831-2.
Deputy Coordinator's Staff. — (Sixth and seventh floors, New Interior Building). Charles J. Deegan, room 6420, extension 4735; H. Chandler Ide, room 6654, extension 3833; James Moore, room 6648, extension 4796; J. Elmer Thomas, room 6420, extension 4735.
Production Division. — Robert E. Allen, director, room 6647, extension 3334.
Refining Division. — Wright W. Gary, director, room 6637, extension 3233.
Transportation Division.—H. A. Gilbert, director, room 6629, extension 4418.
Marketing Division.—John W. Frey, director, room 6623, extension 4646.
Research Division.—Edward B. Swanson, director, room 7313, extension 749.
Conservation Division. — Everett Lee De Golyer, director, room 7516, extension 4459.
Materials Division. — William F. Huff, director, room 7514, extension 4585.
Legal Division.—J. Howard Marshall, chief counsel, room 6649, extension 4100.
OPM Priority Consultant.—James E. Hughes, room 7416, extension 4616.
Executive Officer.—Stanley W. Crosthwait, room 6515, extension 4363.
Liaison.—Gen. Walter B. Pyron, liaison agent between Army Department and OPC. Phone Republic 7600, extension 6044, room 6261, New War Department Building.
Information Division.—Herbert A. Yocum, director, room 6620, extension 3844.
Foreign Division.—W. D. Crampton, associate director, room 7452, extension 4788.

DISTRICT OPC OFFICERS

DISTRICT 1

122 East Forty-second St., Chanin Bldg., New York City

Production Section.—James R. Wylie, Jr., district director.
Natural-Gas and Natural-Gasoline Section.—Frank M. Brewster, chief.
Refinery Section. — Distin W. Wilson, district director.
Marketing Section.—Louis H. Spinner, district director and acting director in charge.
Legal Section.—Charles L. Harding, district counsel.

DISTRICT 2

120 South La Salle St. Bldg., Chicago, Ill.

Production Section.—Wirt Franklin, district director and director in charge.
Refinery Section.—Douglas P. Bailey, district director.
Transportation Section. — Walter Dumont, district director.
Materials Section. — Edward E. Robbins, district director.
Legal Section.—Charles K. Schwartz, district counsel.

DISTRICT 3

245 Mellie Esperson Bldg., Houston, Tex.

Production Section. — Grady H. Vaughn, district director for production.
Natural-Gas and Natural-Gasoline Section.—D. E. Buchanan, chief of section.
Refinery Section.—G. T. Granger, district director.
Legal Section.—J. P. Rice, district counsel.
Conservation Division.—W. J. Murray, Jr., conservation engineer.

DISTRICT 4

817 Seventeenth St., United States Natl. Bank Bldg., Denver, Colo.

Production Section.—Michael J. Foley, district director.
Refinery Section.—Earl Petty, district director.

DISTRICT 5

417 S. Hill St., 855 Subway Terminal Bldg., Los Angeles, Calif.

Production Section.—Lt. Comdr. Wentworth H. Osgood, district director and director in charge.
Natural-Gas and Natural-Gasoline Section.—Reed W. Garman, assistant chief.
Conservation Section.—Everett Trostel, district conservation engineer.
Refinery Section.—Harold Sydnor, district director.
Materials Section. — Charles T. Reichert, district director.
Transportation Section.—Dale Gibson, acting district director.
Marketing Section.—Charles B. Garretson, district director and assistant director in charge.
Legal Section.—Clyde Thomas, district counsel.

Charles L. Harding Appointed District 1 Counsel

Charles L. Harding has been appointed counsel and acting director in charge for district office No. 1 of the office of petroleum coordinator, with offices in the Chanin Building New York. Mr. Harding was formerly manager of the marketing division of Shell Oil Co., legal department in territory east of the Rocky Mountains.

OPC Staff for District 2 Is Named by Wirt Franklin

CHICAGO, Feb. 3.—Executive personnel of District 2, Office of Petroleum Coordinator, Chicago, has been announced by Wirt Franklin, director in charge. The personnel of the Production Division includes Mr. Franklin, director in charge; H. L. Wadsworth and Charley C. Brown, assistant directors; Robert B. Newcombe, chief development and production analyst; Marvin Lee, assistant chief, petroleum-production division; Robert C. Mitchell, petroleum-production analyst; Henry Emmett Gross, associate petroleum-production analyst, and Joseph E. Washington, production engineer.

Others are: Charles K. Schwartz, district counsel, legal division; Walter Du Mont, district director, transportation division; Douglas P. Bailey, director, refining division; Edward Everett Robbins, director, materials division; Frank P. Donahue, conservation engineer, and A. W. Gaede, office manager.

District offices are located in Suite 1336, 120 South La Salle Street.

Oil Tanker Crews Request Arms and Rafts for Ships

NEW YORK, Feb. 3.—As a result of the submarine sinkings along the Atlantic seaboard, tanker crews have petitioned shipowners to take immediate steps to arm their vessels and to equip them with life rafts so that needless loss of life may be averted. In letters to tanker owners, the crew members stated their willingness and determination to "deliver the goods wherever they are needed."

District 2 Oil Operators Asked to Salvage Scrap

CHICAGO, Feb. 3.—Wirt Franklin, director of District 2, Office of Petroleum Coordinator, has recommended that all oil operators in the district check immediately their scrap-metal situation with a setting aside for reconditioning all salvable and disposing of the remainder for resmelting.

Mr. Franklin stated that the oil industry undoubtedly will be unable to obtain all the steel it needs for normal operation during the present emergency, and called attention to the large amounts of scrap iron and steel existing unused in various oil fields and refineries. The more of this metal that can be made available to the steel industry in general, the more will be available for the oil industry, he said.

DEATHS

JOHN T. BARNETT, 72, Colorado oil man and political figure, died in Denver, February 1, of a heart ailment. Mr. Barnett was head of the Mountain Producers Corp., and was Democratic national committeeman for Colorado from 1913 to 1928. He was also a former attorney general.

LELAND MONROE GUICE, 58, of Gloster, La., oil operator and former resident of Shreveport, died at his home last week after an illness of 2 days. Survivors include his widow and a son.

THOMAS LEONARD, retired construction foreman for Eureka Pipe Line Co., died last week in a Clarksburg, W. Va., hospital. Mr. Leonard had been with the Eureka company continuously from 1890 until his retirement in 1931.

J. E. BLAKER, retired gager for Eureka Pipe Line Co., died last week at Mannington, W. Va. He had been a gager and engineer in the Dolls Run area until his retirement in 1939.

STEPHEN A. KELLEY, 80, veteran employe of the Sinclair refinery in Tulsa, died last week in a Tulsa hospital from pneumonia. Despite his age, he had worked until a few days before his death. The widow, two daughters and a son survive.

THE MARKETS*

CRUDE OIL: A 2-day shutdown in Texas last week brought national crude-oil production to the lowest level since October, 1941, and substantially below late January demands. With posted price schedules unchanged producers and buyers last week were engaged in adjusting their operations to February allocations which will reduce crude supplies in some areas and increase them in others.

REFINERY PRODUCTS: Market trends were largely dominated by war restrictions in tanker shipments in both Atlantic and Pacific waters. Markets were tight at destination points with supplies of some products backing up at Gulf Coast and southern California shipping centers. Price decline in natural gasolines in southwestern and middle western states continued.

TANK-WAGON AND POSTED DEALER: Price schedules for regular and premium grades of motor fuels as posted by the major sellers generally unchanged. An increasing quantity of low-octane material, a development of the restrictions on ethyl fluid and in the use of high-octane blending materials, in the manufacture of aviation gasoline, is being offered through posted dealer and service-station outlets at reduced prices.

FINANCIAL: Oil securities were slightly higher during the week but closed at practically the average levels of the previous week. Average of 30 representative stocks for week ended January 31: High, 24.15; low, 23.25; close, 23.44; week ended January 24: High, 23.84; low, 23.06; close, 23.50.

*Detailed information in market section.

International

Another Venezuelan Production Record Is Established—711,862 Bbl. Daily

CRUDE-OIL production rose to the highest level in Venezuela's petroleum history in November, reaching the officially reported rate of 711,862 bbl. daily, an increase of 30,810 bbl. over October. Most of the 4.5 per cent increase in the daily average rate of production was contributed by the fields in and around Lake Maracaibo in the western part of the country, although Oficina, Jusepin, San Joaquin, and El Roble, among the newer fields in eastern Venezuela, all registered higher production in November than was reported in October.

Tia Juana and Bachaquero accounted for all of the increase in production from Lake Maracaibo fields. Lagunillas' output declined slightly in November, compared to October, as did Cabimas.

Lago Petroleum Corp. boosted its production to 7,643,295 bbl. in November, a daily average of 254,777 bbl., compared to a total of 7,481,545 bbl. in October, a rate of 241,340 bbl. daily. Venezuelan Oil Concessions, Ltd., the principal producing subsidiary of the Royal Dutch-Shell group in South America, increased its Venezuelan production in November to 5,123,740 bbl., compared to 4,969,940 bbl. in October, a daily average in the 2 months of 170,791 and 165,665 bbl., respectively.

Venezuela's petroleum exports increased to 621,064 bbl. daily in November. All increases in shipments originated in the Maracaibo and Maturin customs districts and, as usual, most of the exports were consigned to the Netherlands West Indies islands of Aruba and Curacao, where Lago Oil & Transport Co. and the Shell subsidiary have two of the world's largest refineries.

Oficina, the largest field in eastern Venezuela, increased its production superiority over other fields in that part of the country in November by reporting output of 1,981,300 bbl., a daily rate of 66,043 bbl. While Oficina's production continued upward, yield from Quiriquire, the second field in eastern Venezuela, suffered another decline in producing an average of 51,289 bbl. daily in November compared with 54,277 bbl. per day in October.

Significance of Venezuela's all-time peak in crude production is even more arresting when compared with conditions at the same time in 1940. Venezuela's production touched a low mark for the war period in November 1940, after a steep descent, starting with the second quarter of that year. Production of 437,665 bbl. daily in November 1940, was barely more than half the current rate of output and is reflective of the depressing influence of markets in western Europe because of the war.

Venezuela's crude-oil production started to rise with closure of the Mediterranean shipping lanes to commercial traffic. Indications are that the upward trend will continue.

Last week, Lago Oil & Transport announced an expansion program for its Aruba refinery that will involve expenditure of $10,000,000, indicating that a market for a larger volume and more specialized petroleum products has been assured over a term of years.

VENEZUELAN CRUDE-OIL PRODUCTION

By Fields

	November 1940	October 1941	November 1941
Cabimas	1,390,430	2,042,630	2,015,375
Lagunillas	2,845,068	6,492,205	6,360,635
Tia Juana	3,140,892	5,236,825	5,457,790
Bachaquero	177,817	36,560	254,760
Total Lake fields	7,554,207	13,808,220	14,088,560
Daily average	251,807	445,426	469,619
La Concepcion	59,315	134,185	114,205
La Paz	42,631	33,255	28,765
Mene Grande	937,897	1,127,740	1,135,335
El Cubo	411,591	571,190	545,505
Cumarebo	46,707	171,370	172,005
Las Palmas	2,138	1,615	2,600
El Mene de Mauroa	20,410	17,490	17,670
Hombre Pintado	50,326	43,905	40,970
Mara district	.....	970	.....
Quiriquire	1,591,760	1,682,565	1,538,665
Pedernales	136,084	129,275	125,770
Temblador	323,808	265,615	263,875
Oficina	1,530,295	1,954,695	1,981,300
Jusepin	224,363	707,245	802,095
Santa Ana	791	17,925	17,435
San Joaquin	120,580	267,485	284,370
El Roble	71,139	140,275	163,645
Leona	1,662	12,100	11,705
Guario	2,956	8,190	5,360
Socororo	1,300	.....	.....
Santa Rosa	.....	13,050	11,990
Rincon Largo	.....	1,890	.....
Santa Barbara	.....	2,385	4,040
Other fields	5,575,753	7,304,415	7,267,305
Daily average	185,858	235,626	242,243
Grand total	13,129,960	21,112,635	21,355,865
Daily average	437,665	681,052	711,862

By Companies

	November 1940	October 1941	November 1941
Caribbean Pet. Co.	937,897	1,127,740	1,135,335
Venezuelan Oil Con., Ltd.	3,004,145	4,969,940	5,123,740
Colon Dev. Co.	411,591	571,190	545,505
Lago Pet. Corp.	2,956,360	7,481,545	7,643,295
Mene Grande Oil Co.	3,432,921	3,748,510	3,735,715
British Con. Oilfields	20,411	17,490	17,670
Central Area Exp. Co.	50,326	43,905	40,970
Standard of Venezuela	2,290,536	3,124,155	3,092,460
Cia de Petroleo Lago	22,817	14,725	11,775
Socony-Vacuum Oil Co.	2,956	8,190	5,360
Texas Co. (Venezuela)	.....	1,890	.....
Compania Consolidada	.....	2,385	4,040
Orinoco Oil Co.	.....	970	.....
Grand total	13,129,960	21,112,635	21,355,865

VENEZUELAN PETROLEUM EXPORTS

From Maracaibo

Shipper and destination—	October 1941	November 1941
Caribbean Pet. Co., Curacao	131,705	126,265
Venezuelan Oil Con., Curacao	4,888,540	4,895,845
Colon Dev. Co., Curacao	574,990	512,095
British Controlled, Curacao	14,840	17,695
Central Area Exp., Curacao	40,485	38,475
Lago Pet. Corp., Aruba	6,153,280	6,783,565
Lago Pet. Corp., Las Piedras	570,465	624,090
Lago Pet. Corp., La Salina	.....	19,740
Mene Grande Oil Co., Las Piedras	.....	1,456,575
Mene Grande Oil Co., Aruba	.....	19,765
Mene Grande Oil Co., La Salina	19,085	.....
Standard of Venezuela, U. S.	80,360	261,690
Standard of Venezuela, Canada	89,275	.....
Total from Maracaibo	14,208,625	14,755,800
Daily average	458,343	491,860

From Maturin

Standard of Venezuela, Aruba	158,720	179,615
Standard of Venezuela, Guiria	306,660	183,415
Standard of Venezuela, Canada	566,830	463,155
Standard of Venezuela, Argentina	.....	364,520
Standard of Venezuela, U. S.	.....	185,815
Standard et al (from Baca de Urocoa), Guiria	249,775	262,180
Standard of Venezuela, Tenerife	82,700	.....
Total from Maturin	1,364,685	1,638,700
Daily average	44,022	54,623

From Barcelona

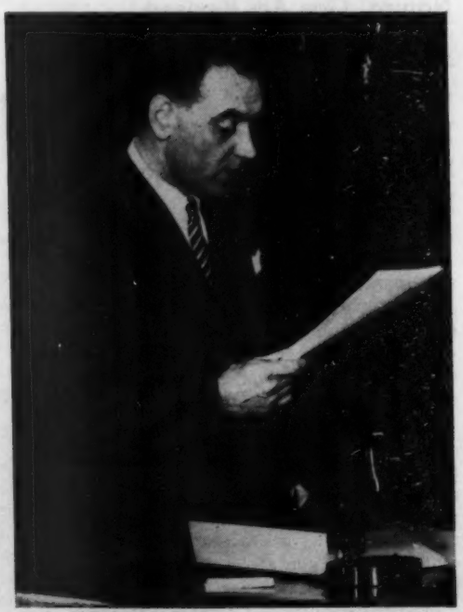
Standard and Mene Grande, U. S.	1,100,150	1,463,585
Standard and Mene Grande, Aru.	806,080	374,440
Standard and Mene Grande, Cura.	356,390	399,400
Standard and Mene Grande, Can.	177,920	.....
Total from Barcelona	2,440,530	2,237,425
Daily average	78,727	74,581
Grand total Venezuela	18,013,840	18,631,925
Daily average	581,092	621,064

Uruguay . .

ANCAP'S General Manager Heads Uruguayan I.S.D.P.

CARLOS R. VEGH GARZON, general manager of the ANCAP refinery at Montevideo, Uruguay, has been elected president of the Uruguayan National Section of the Instituto Sud-Americano del Petroleo. German E. Villar, director of the Instituto de Quimica de la Facultad de Ingenieria is the secretary.

Members of the Uruguayan section include: Vicente I. Garcia, dean of the Facultad de Ingenieria; Jaime Botet, vice president of the Banco Hipotecario; Augustin Maggi, member of the Council of the Facultad de Ingenieria; Felix de Medina, director of the Institute de Materiales de la Facultad de Ingenieria; Manuel E. Lugaro, chief engineer of the Central Batlle y Ordonez of the U.T.E.; Angel Goslino, president of the Asociacion de Quimica y Farmacia; Ralph Emery, manager of the Shell Mex Uruguay, Ltd.; Reynaldo Deambrosis, superintendent of ANCAP'S refinery; Tydeo Larre Borges, director of the Compania Aeronautica Uruguaya S.A. (C.A.U.S.A.).



Carlos R. Vegh Garzon, newly elected president of the Uruguayan section of the Instituto Sud-Americano del Petroleo, addressing oil men at the organization meeting in Montevideo. He is general manager of the ANCAP refinery

Natural Gas News

SEC Approves Large Payment From Panhandle Eastern to Columbia

The approval given by SEC to Panhandle Eastern Pipe Line Co.'s finance plan clears up one of the legal difficulties which has faced the Columbia Gas & Electric system in this period of reorganizing systems for supplying natural gas from the Texas Panhandle to Michigan and other central states.

SEC has allowed Panhandle Eastern to carry out its proposal for financing. According to the arrangement a portion of the proceeds will be utilized to purchase Columbia Gas property in Indiana and Michigan for $11,268,941. In addition. Panhandle Eastern will redeem $10,000,000 of preferred stock, held by Columbia Oil & Gasoline.

Columbia Oil will take the $10,000,000 to be received from Panhandle Eastern and with $1,000,000 of cash it now holds it will buy back from Columbia Gas $11,000,000 of its $20,100,000 debentures held by Columbia Gas. Columbia Gas will receive a total of $22,268,941 in cash. Columbia Gas may utilize these funds for the partial redemption of its own debentures, according to reports. Columbia Gas has $104,460,000 of debentures outstanding. However, there is a possibility that money received from Panhandle Eastern might be required for construction due to increased demands resulting from the war program.

It is reported that Columbia Oil will retain ownership of $1,000,000 of Class B noncallable preferred stock and 404,326 shares, or 50.1 per cent of the common stock of Panhandle Eastern. The SEC has indicated it does not like this preferred ownership and it is also expected that ultimately Columbia Oil will dispose of its Panhandle Eastern common, at least in sufficient amount to pay off the remaining Columbia Oil debentures held by Columbia Gas.

Natural Gas Act Revised

WASHINGTON, D. C., Feb. 2.—Revision of the Natural Gas Act to authorize the Federal Power Commission to grant certificates of convenience and necessity to gas companies which seek to extend their facilities into unserved areas, was approved by the Senate late last week. The legislation had already been approved by the House.

The legislation is designed, according to Sen. Burton K. Wheeler, of Montana, who sponsored it, to extend the requirement for a certificate for the purpose of preventing wasteful and uneconomic competition. The measure now goes to the White House for the president's signature.

REFINERY NEWS

News on refinery activity and expansion programs, formerly found on this page, has been segregated and henceforth will appear on a special page, which this week will be found on Page 55.

Refinery Gas From Imperial's Sarnia Plant Will Be Stored

CHATHAM, Ont.—With the installation of necessary processing equipment, it is expected that residual gas from the Imperial Oil, Ltd., refinery at Sarnia, Ont., will be available for the Union Gas Co. as an auxiliary supply toward the end of this winter.

Union Gas Co. has contracted to take gas approximating one-third of its normal requirements from the Sarnia refinery and will utilize compressor equipment to store the auxiliary gas in the partially depleted sands of the Dawn gas field. This is the first time in Canada that storage of refinery gas in former natural-gas sands has been undertaken. Excess natural gas from Turner Valley was stored in the exhausted Bow Island field in Alberta for several years.

Mahoney Bill Would Provide Flat Royalty on Public Lands For Duration of War

WASHINGTON, D. C., Feb. 2.—Sen. Joseph C. O'Mahoney of Wyoming today introduced a bill to provide a flat royalty of 12½ per cent on all oil and gas leases issued on public lands for the duration of the war. Leases in new fields would have 10-year terms, and existing leases could be converted to the proposed terms if no discovery has been made.

At present oil royalties on public lands are on a sliding scale under which no payments are due if the price of crude is less than $1 per barrel and payments are 12½ per cent on daily average per barrel per well per month production of less than 50 bbl. and graduating upward to 32 per cent for production above 2,000 bbl. This is said to average about 16⅔ per cent.

In introducing the bill Senator O'Mahoney said:

"I have had numerous conferences during the past several months with officials of the Interior Department and the Office of Petroleum Coordinator with respect to the problem, but no definite conclusion has as yet been reached and no recommendation has been made. Both Secretary Ickes and Deputy Coordinator Davies have indicated to me their belief that it would be fortunate in present circumstances if new sources of oil were discovered, but the various bureaus concerned with oil on the public domain have apparently not as yet come to an understanding. It is my hope that the introduction of this bill will bring about early agreement. The public lands committee will, of course, have an opportunity to review the whole problem."

Sadler Asks Modification In 40-Acre Spacing Order

WASHINGTON, D. C.—Modification of the OPM order requiring new wells to be drilled in the center of 40-acre units to permit location of wells anywhere within the unit so long as the well is at least 330 ft. from the lease or property line and 1,320 ft. from the nearest well has been recommended to the Office of Petroleum Coordinator by Jerry Sadler, member of the Texas Railroad Commission while he was in Washington the past week.

"The changes," Mr. Sadler said, "would call for no increase in the amount of steel to be consumed, but would permit wells to be drilled in the best locations from the standpoint of efficient production and sound long-range planning."

Mr. Sadler also recommended to the War Production Board that the problem of allocating steel for the oil industry be turned over to the petroleum coordinator.

Supreme Court Rules Railroad Has No Fee Title On Mineral Rights

WASHINGTON, D. C., Feb. 2.—The Supreme Court today ruled that Great Northern Railway Co. has no fee title or mineral rights to land acquired for right-of-way by grant through the General Right-of-Way Statute of 1875.

The federal Government sued to enjoin the railroad from removing oil, gas, or other minerals from its right-of-way, specifically three wells the company proposed to drill in Glacier County, Montana, to obtain oil for sale and for its own use as fuel. Today's decision applies only to this limited area where it was shown the Government still retains title to land over which the railroad passes, but apparently it sets a precedent regarding title to minerals under rights-of-way obtained by all public land grants since about 1871. The decision also sets aside the effect of the old case of Rio Grande Railway vs. Stringham, which the court said was not decisive because the Government was not represented and the intent of Congress in passing the act of 1875 was not considered.

The court pointed out that prior to 1871 Congress made lavish outright grants to railroads but because of criticism Congress about 1871 revised its policy and thereafter granted only easements or rights-of-way and that the act of 1875 under which Great Northern's predecessor obtained grants did not convey title in fee or mineral rights. The railroad claimed mineral rights under prior Supreme Court decisions, but the court said these were based on acts passed before the 1871 change of policy.

Standard Oil Co. and Bolivian Government Reach Agreement

Sale of the properties of the Standard Oil Co. of Bolivia, subsidiary of the Standard Oil Co. of New Jersey, to the Bolivian Government was disclosed last week. Negotiations for the sale were begun before the properties were expropriated in March 1937, but were interrupted by that action and subsequent negotiations.

The Standard Oil Co. will receive the sum of $1,500,000 cash and accrued interest from March 1937. In return it will release the Bolivian Government from all claims arising from its seizure of the properties and at the same time will be absolved from the government's claims for unpaid taxes and other considerations.

It is reported that the agreement upon which the sale was based was reached between representatives of the United States and Bolivian governments during the Inter-American conference at Rio de Janeiro. Terms of the agreement were subsequently submitted to and approved by the Standard Oil Co.

At the same time it was disclosed that the United States had advanced Bolivia a sum of $5,000,000 in credits for exploration and exploitation of oil properties. An independent American engineer and geologist, Rex Townsend, has been engaged by the Bolivian Government for consulting work. Mr. Townsend went to Bolivia in January, expecting to remain there several months.

PROGRAMS AND MEETINGS

Equipment Men Will Meet With OPA in Dallas

Members of the petroleum-equipment industry and trade have been asked by the Office of Price Administration to meet with representatives of the OPA at the Baker Hotel in Dallas, Tex., on Wednesday, February 11. The meeting will begin at 9:30 a.m. in the Peacock terrace of the hotel and will last all day. Representatives of other branches of the industry were also invited to attend. C. L. Christensen, head of the oil-field equipment unit of OPA's machinery section, will preside.

Petroleum Division of A.I.M.E. Will Meet in New York Next Week

The annual meeting of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers will be held at the Engineers Building, New York City, February 9-12. A highly diversified program has been arranged. The program follows:

PETROLEUM DIVISION

Tuesday, 9 a.m.

Production engineering: E. A. Stephenson, chairman; W. S. Morris, W. H. Geis, cochairmen.

Pressure Prediction in Oil Reserves, by W. A. Bruce, Carter Oil Co.

Calculation of Productivity Factors for Oil-Gas-Water Systems in the Steady State, by H. H. Evinger and M. Muskat, Gulf Research & Development Co.

The East Texas Field Pressure Decline, by Resit Kenan, University of Texas.

An Engineering Study of the Magnolia Field in Arkansas, by H. F. Winham, Shell Oil Co., Inc.

Determination of Well Capacities From Liquid-Level Data, by Charles Rodd.

The Calculation of the Rate of Water Influx in Water-Drive Fields, by William Hurst.

Caliper Logging, by C. P. Parsons, Halliburton Oil Well Cementing Co.

High-Pressure Gas Regulation, by C. Norman Schwarz, Maintenance Engineering Co.

Neutron and Radioactivity Well Logging, by Serge A. Scherbatskoy and Bruno Pontecorvo, Well Surveys, Inc.

Tuesday, 2 p.m.

Harry Stolz, chairman; Stuart Buckley and E. A. Stephenson, cochairmen.

Wednesday, 9 a.m.

Symposium on production, foreign and domestic: Basil B. Zavoico, chairman; Winthrop R. Haynes, cochairman.

FOREIGN PRODUCTION

Argentina—Mario L. Villa, gerente general, Yacimientos Petroliferos Fiscales.

Bolivia—Otto Schlagenweit.

Russia—Basil B. Zavoico, geologist, Chase National Bank.

Brazil—J. E. Brantley, president, Drilling & Exploration Co., Inc.

Trinidad—P. E. T. O'Connor, geologist and petroleum engineer, Antilles Petroleum Co., Ltd.

Canada—G. S. Hume, Bureau Geology and Topography, Canada Department Mines and Resources.

Progress in Athabaska Oil Sand Development, by Max Ball, president, Abasand Oils, Ltd.

Colombia—O. B. Hopkins and O. C. Wheeler, International Petroleum Co., Ltd.

Mexico—T. R. Armstrong, Standard Oil Co. of New Jersey.

Peru—O. B. Hopkins and O. C. Wheeler, International Petroleum Co., Ltd.

Bahrein—J. Terry Duce.

Arabia—J. Terry Duce.

DOMESTIC PRODUCTION

Southern Arkansas—A. M. Crowell, director, Arkansas Oil and Gas Commission.

California—V. H. Wilhelm, U.S.N.R.

Illinois—A. G. Bell, Illinois State Geological Survey.

Indiana—Robert G. Reno, assistant state geologist.

Kansas—W. A. Ver Wiebe, department of geology, University of Wichita.

Kentucky—Coleman D. Hunter, Kentucky-West Virginia Gas Co.

North and South Louisiana—J. Hunter, Jr., Louisiana Geological Survey.

Michigan—Therron Wasson, Pure Oil Co.

Mississippi—H. M. Morse, Oil and Gas Board, State of Mississippi.

Missouri—Frank C. Greene.

Nebraska—B. E. C. Reed, assistant state geologist.

New Mexico—John M. Kelly, secretary, New Mexico Oil Conservation Commission.

New York—C. A. Hartnagel, assistant state geologist.

Ohio—Kenneth Cottingham, Ohio Fuel Gas Co.

Oklahoma—Raymond C. Sloan, Carter Oil Co.

North and Central Pennsylvania—Arthur C. Simmons, geologist and petroleum engineer.

South Pennsylvania—J. T. Galey, oil and gas operator.

Rocky Mountain—C. E. Shoenfelt, "Petroleum Information."

Tennessee—Kendall E. Born, Tennessee Division of Geology.

East and East Central Texas—D. V. Carter, chief petroleum engineer, Magnolia Petroleum Co.

Texas Gulf Coast—P. B. Leavenworth, Gulf Oil Corp.

North Texas—Lewis MacNaughton, De Golyer, MacNaughton & McGhee.

North Central Texas—G. W. Imholz, consulting geologist.

Panhandle—Henry Rogatz, geological engineer.

South Central Texas—William H. Spice, Jr.

South Texas—M. T. Halbouty, consulting geologist and petroleum engineer, and J. J. Halbouty, senior student, University of Texas.

West Virginia—David B. Reger, consulting geologist.

Thursday, 9 a.m.

Economics: L. F. Terry, chairman; W. B. Case, cochairman; D. F. Leary, recorder.

Petroleum Refining Methods Available to Meet War Demands, by James Thornton, Lummus Co.

Conservation, by E. De Golyer, director of conservation, OPC.

100-Octane Aviation Gasoline, Present and Future, by W. W. Gary, director of refining, OPC.

World Consumption of Petroleum, by V. R. Garfias, R. V. Whetsel and J. W. Ristori, Cities Service Co.

Economic Influences Upon Oil Prices, by H. J. Struth, petroleum economist.

Engineering Economics of Long Petroleum Pipe Lines, by Edgar G. Hill, Ford, Bacon & Davis, Inc.

Investment in United States Petroleum Industry, by John D. Gill and J. S. Weatherby, Atlantic Refining Co.

Petroleum Problems of the Axis Powers, by William B. Heroy, Pilgrim Exploration Co.

Petroleum division annual dinner, Thursday, 6 p.m., Hendrik Hudson room, Roosevelt Hotel. E. A. Stephenson, presiding. R. L. Dudley, president, Gulf Publishing Co., speaker.

Power Conference Will Meet In Chicago, April 9-10

The next annual meeting of the Midwest Power Conference will be held on April 9-10 at the Palmer House, Chicago. This conference is sponsored by the Illinois Institute of Technology with the cooperation of the nine other midwestern universities and colleges and the local sections of the Founder and other engineering societies.

The preliminary program of the conference will contain, in addition to the opening meeting, sessions on electric power transmission, industrial power plants, hydro power, fuels and combustion, diesel power, and central station practice. The latter is sponsored by the Chicago section of the A.S.M.E. and all arrangements for it are being made by the section's chairman of its power and fuels division, J. R. Michel. In addition to these sessions, the conference program will include two joint luncheons, one with the Chicago section of the A.S.M.E. and the other with the Chicago section of the A.I.E.E. A highlight of the conference will be its all-engineers dinner on the evening of April 9.

The conference will be opened by Pres. H. T. Heald, of the Illinois Institute of Technology and Dr. A. A. Potter, dean of engineering of Purdue University. Among the papers and speakers of the conference program are the following:

Boiler Circulation Problems, by A. A. Markson, member A.S.M.E., New York.

Recent Field Experience With Natural Lightning, by C. F. Wagner, manager, Central Station Engineering, Westinghouse Electric & Manufacturing Co.

Feed-Water Treatment in Small Power Plants, by E. P. Partridge, director of research, Hall Laboratories, Inc., Pittsburgh, Pa.

Radial Diesels, by Prof. E. T. Vincent, University of Michigan.

American Chemical Society to Hold Conclave in Memphis

More than 3,000 chemists will convene in Memphis, Tenn., April 20 to 24 for the 103rd meeting of the American Chemical Society. Sessions will be held by 17 of the society's 18 professional divisions, embracing practically every field of chemical science.

Hundreds of papers and addresses reporting advances in pure and applied science are scheduled, according to an announcement by the president of the society, Dr. Harry N. Holmes, head of the department of chemistry at Oberlin College.

Sessions of the society's professional divisions will hear reports of the latest researches in rubber, petroleum, gas, and fuel, among a myriad other fields.

W. F. Bowld, general manager of the Buckeye Cotton Oil Co., Memphis, has been appointed general chairman of the convention committee. The honorary chairman is Dr. Victor A. Coulter of the University of Mississippi.

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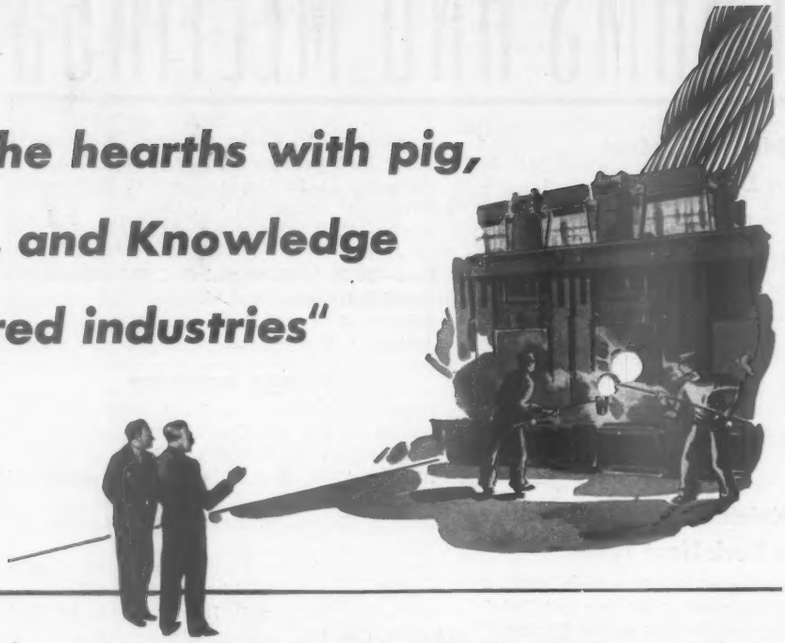

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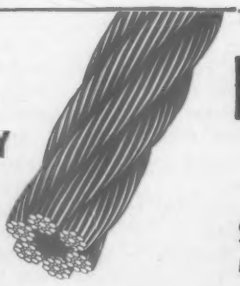

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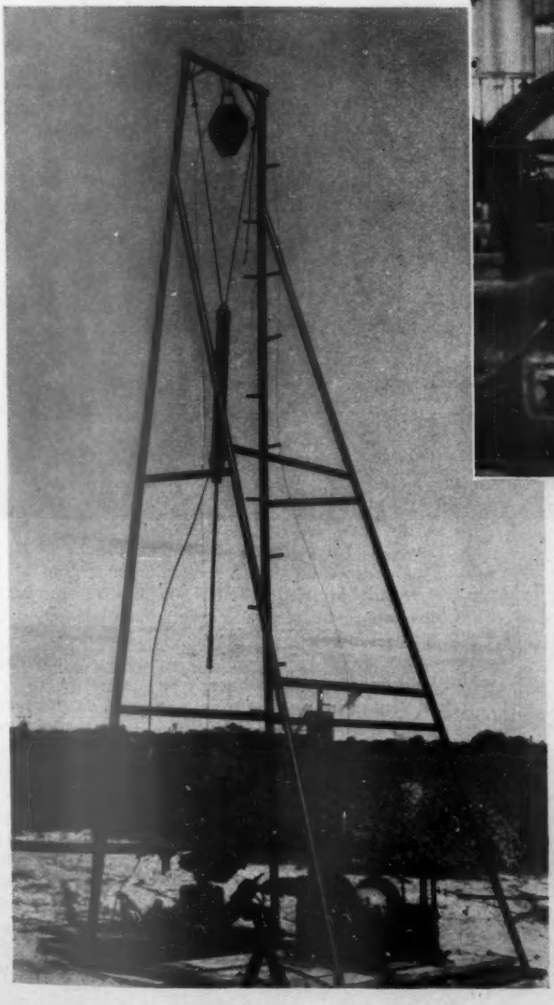
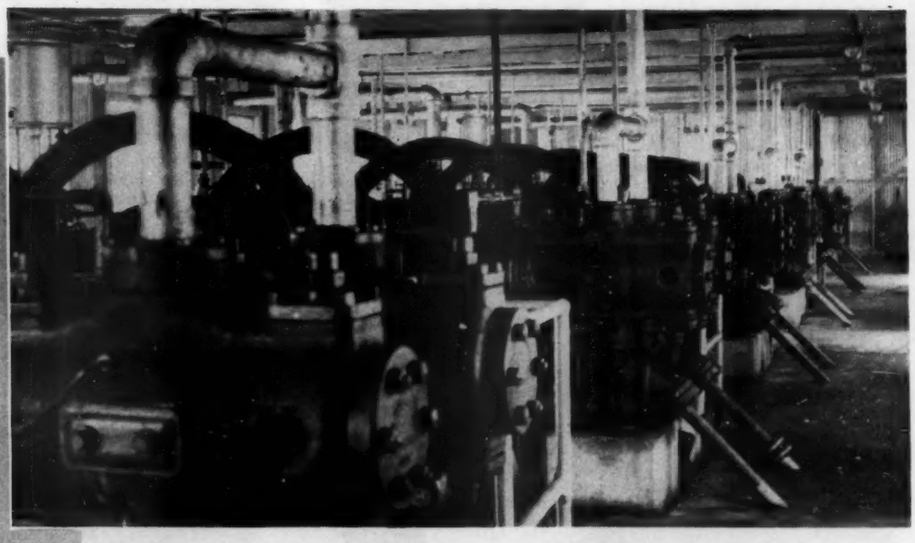
FEBRUARY 5, 1942

Gas Jetting Used to Lift Oil At Aransas Pass Field

By NEIL WILLIAMS





Left: Gas-lift well installation in Aransas Pass field. Above: Natural Gasoline Corp.'s gas-jetting plant in the Aransas Pass field which has six 90-hp. twin-cylinder gas-engine compressors

DURING early development of the Aransas Pass field, South Texas, conservation of gas was not generally observed. Many wells had high gas-oil ratios, and in conformance with practices of that time commonly were permitted to produce as much as 10,000 cu. ft. of gas per barrel of oil to obtain their allowables. Gas production for the field as a whole reached such proportions that at the height of this early development daily withdrawals ran as great as 100,000,000 to 120,000,000 cu. ft.

Circumstances under which the field, with its diversified lease and royalty ownerships, was developed forestalled consideration of any program to utilize the gas in maintaining reservoir pressures. Consequently, with the heavy gas withdrawals there has been a corresponding rapid depletion of reservoir energy. Now, although the field is less than 6 years old and originally had pressures up to 1,800 to 2,000 lb., pressures are so low generally that operators are faced with the necessity of recovering most of the remaining oil production by artificial methods.

Most of the wells in the north end of the field where the early development took place already have been abandoned. In that section of the field, sands were comparatively thin with very narrow margins of oil saturation. In the meantime, a large additional productive area extending southward into the townsite of Aransas Pass has been proved. There the sands are much thicker with larger potential oil recoveries but the wells lack

the pressures to maintain long flowing production as a result of the heavy withdrawals of gas made earlier in the life of the field. Many of these wells, including new wells completed within the past year, already have ceased to flow naturally, and at the present rate of pressure declines it will not be long before all the remaining wells will have to be produced artificially.

Recovery of the remaining production by artificial methods presents various problems. Conditions in this field have not been regarded as suitable for conventional pumping. Not only are the main sands below 7,000 ft. in depth, but wells have comparatively low fluid levels, and with increasing volumes of water to be lifted, costs of pumping might become prohibitive. This has led to consideration of other means of lifting the oil.

Plans of operators now call for the recovery of remaining production by gas jetting, and within the past year this practice has been undertaken on a rather extensive scale in this field. By jetting, premature abandonment of many wells is being forestalled, and increased recoveries made possible. Lack of adequate available gas supplies and pressures in the field for prolonged jetting operations presents a problem, but operators generally are looking to the possibility of being able to lay a pipe line to some nearby high-pressure gas field by the time additional gas volumes are needed to carry on operations.

Two major gas-jetting projects have been placed in operation in the field within the past year, one within the last 2 months. In the first, Natural Gasoline Corp. is distributing high-pressure residue gas from its gasoline plant for jetting purposes to various operators. In the other, Southern Minerals Corp., one of the largest operators in the field, is jetting wells on its own leases. Another gas-lift operation in this field was described in the October 9, 1941, issue, Page 44, of The Oil and Gas Journal.

Natural Gasoline Corp. is operating six 90-hp. twin-cylinder gas compressors, installed last summer. Those take suction from the residue of 250-lb. gas system of the plant, boosting the gas to a pressure of around 700 lb. for jetting use. The high-pressure gas is discharged to a 6-in. and 4-in. main extending from the plant through the center of the field, to which line operators desiring to purchase gas for jetting can connect.

At present approximately 40 wells, representing 11 operators, are being served by this system. The gas is metered to each separate lease.

Gas supply for the plant is obtained largely from wells in comparatively dry gas sands in which pressures as yet have not been entirely exhausted. The volume of gas processed through this system at present amounts to approximately 7,000,000 cu. ft. daily. The utilization of this gas serves a double function. It not only provides the lifting medium for the oil production but, in return to the surface is recovered as vent gas from the separators, providing additional supply available for natural-gasoline-plant operations. In prolonging the producing lift of the wells it also insures continued operation of the plant, as well as increased recoveries from the additional light ends picked up by the gas in the wells.

Plant Served by Three Systems

Diminishing gas supply has forced various adjustments in plant operation, including operation at considerably reduced pressures. In present operation, the plant is served by three systems, namely, the 250-lb. system, supplied by gas from strictly gas wells; a 35-lb. system, supplied by gas from remaining flowing wells, and a 10-lb. system, taking vent gas from the jetting wells. The gasoline plant at present is processing approximately 30,000,000 cu. ft. of gas daily, including the 7,000,000 cu. ft. through the 250-lb. system. Three years ago it was handling the field's peak production, totaling 120,000,000 cu. ft. daily.

Low pressures of the jetted wells have occasioned the installation of a 625-hp. gas-engine compressor with three 23 by 15-in. cylinders which boosts the pressure of the 10-lb. gas coming into the plant to 35 lb. for discharge to the 35-lb. system for use in the low-pressure phase of plant operation. Low-pressure residue gas is taken by a nearby carbon-black plant, leaving only the residue high-pressure gas from the 250-lb. system for jetting purposes.

The six compressors for the jetting-gas system originally saw service in the Seminole field of Oklahoma, later at Oklahoma City, and more recently, prior to their installation at Aransas Pass, in the Saxet field, at Corpus Christi, Tex. On their present job, they have been operating in parallel, but plans now call for converting four cylinders (two compressors) for an initial pressure boost of from 250 lb. to around 300 lb. for discharge to the remaining compressors which will boost the pressure to 1,200-lb. discharge. This not only will make possible handling of a larger volume of gas but also will make available higher pressures for jetting.

For its jetting operations, Southern Minerals Corp. has a 400-hp. compressor. Jetting gas is being supplied from five wells in a 7,400-ft. gas sand. Volume of this gas is approximately 6,500,000 cu. ft. daily. These wells still have a pressure of from 500 to 600 lb., at which pressure the compressor takes suction, discharging at a pressure of from 900 to 1,000 lb. This company has approximately 60 oil wells on its leases. The project necessitated the laying of approximately 3,400 ft. of 4-in. and 6,000 ft. of 2-in. gathering and gas-distribution lines.

Vent gas recovered from separators on this company's leases, along with the gas produced on leases of all operators in the field, is gathered by Natural Gasoline Corp. for gasoline-plant processing.

Various types of gas-lift valves and installations are employed in the jetting operations in the field. On a late report there were approximately 257 producing wells in the field, with upwards of 125 of these being jetted. Pressures of many of the remaining wells are barely sufficient to maintain natural flow, and as rapidly as those go off production it is expected to put them on gas lift.

Right: A 400-hp. gas-engine compressor used by Southern Minerals Corp. in gas-lift operations in Aransas Pass field. Below: Southern Mineral Corp.'s compressor plant for gas-lift operations in the field showing drive of radiator-type cooler

Relative Hot Ductility of Steels Shown by Stress-Rupture Data

By C. L. CLARK

This is the fourth in a series of related articles by the author. Previous articles in the series have appeared in the issues of October 2, November 27 and January 8. The next article will appear in an early issue.

REQUIREMENTS placed on high-temperature steels vary greatly in different applications. In some, such as in valve and turbine parts, the total deformation is limited to very small amounts and the ductility to fracture is not of great importance. This is especially true since in equipment of this type the maximum temperature is relatively fixed, not increasing as the operating cycle is extended, and the stresses are sufficiently low to insure a life of many years.

Cracking-still tubes may, however, be subjected to entirely different operating conditions. Not only may the initial tube-metal temperature be higher than in many other high-temperature applications, but it may, due to coke deposition, increase continuously as the run is extended. This may result in overstressing the tube and bulging often occurs. In fact, many state that the tube failures mainly happen during this overheated period. It is thus advisable in applications of this type to use steels whose characteristics are such that they will undergo visible deformation without fracture. Otherwise, no indications will be had as to impending failure.

While information with respect to the ductility to fracture is believed to be of considerable importance in steels intended for cracking-still-tube applications, the only means to date for obtaining data of this type are the stress-rupture tests. This is true since both time and stress may have a great influence on this characteristic. The creep test gives no information on this particular subject for in this method of testing the specimens are not carried to actual fracture.

An example of the use of stress-rupture tests for indicating the ductility to fracture is shown in Fig. 1. These particular data are for 0.50 Mo steel at 950° F. The uppermost line of this figure is a plot of stress versus time for fracture periods, varying from 10 to 4,000 hours, while the lower set of four curves are the time-elongation curves obtained from the more prolonged tests. The line connecting the extremities of these curves expresses the relationship between elongation to fracture and rupture time.

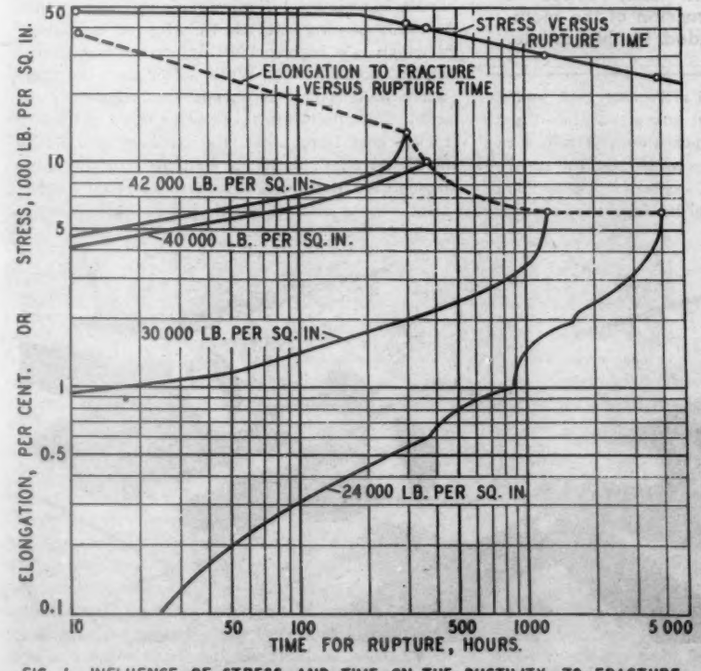


FIG. 1. INFLUENCE OF STRESS AND TIME ON THE DUCTILITY TO FRACTURE OF 0.50 Mo. STEEL AT 950° F.

Low Ductility to Fracture

From the relationship of Fig. 1 it is apparent that 0.50 Mo steel possesses a low ductility to fracture at 950° F. especially under the more prolonged rupture times. With a fracture time of 10 hours, its elongation is 37.5 per cent but when 4,000 hours are required for fracture its elongation is only 6.0 per cent. The low ductility of this particular steel at 950° F. is probably not of importance in cracking-still applications for when tubes of this analysis do fail the failure probably occurs at considerably higher temperatures, but it is a factor to be considered when this steel is used for pressure vessels or reaction chambers.

Temperature, as well as time and stress, have an influence on the ductility to fracture, as shown in Fig. 2. For example, the 0.50 Mo steel exhibits minimums in its temperature-ductility curve at 1,000° and 1,300° F., and maximums at 1,100° to 1,200° F. and 1,400° F. The minimum at 1,300° F. is not as low as that at 1,000° F. On the basis of these data a more ductile fracture should be expected at 1,100° to 1,200° F. and at 1,400° F. than at 950° to 1,000° F. or 1,300° F.

Ductility values of several other steels are also given in Fig. 2. The majority of these show maximums and minimums, like the 0.50 Mo steel, but all, except 18-8, possess values in excess of those of the 0.50 Mo steel. It is interesting to note that the addition of 1.25 per cent Cr and 0.75 per cent Si to 0.50 Mo steel, producing DM steel, greatly improves the ductility over the complete temperature range. Likewise, that the 7.0 and 9.0 per cent Cr steels, containing 1.0 per cent Mo, possess a very high ductility especially at the more elevated temperatures.

In Fig. 3, attempt has been made to correlate

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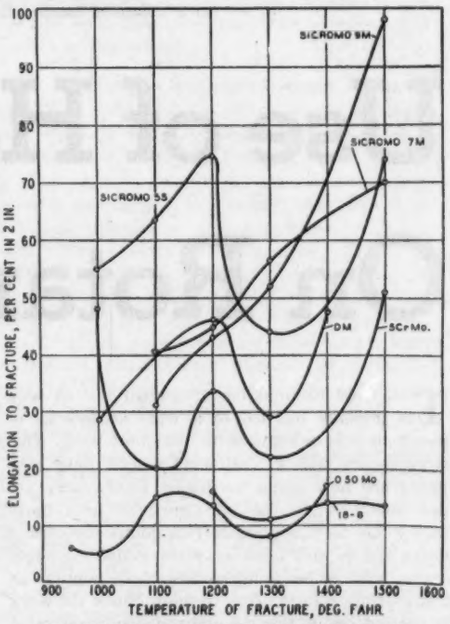


FIG. 2 DUCTILITY TO FRACTURE CHARACTERISTICS OF DESIGNATED STEELS AT TEMPERATURES OF 950° TO 1500°F.

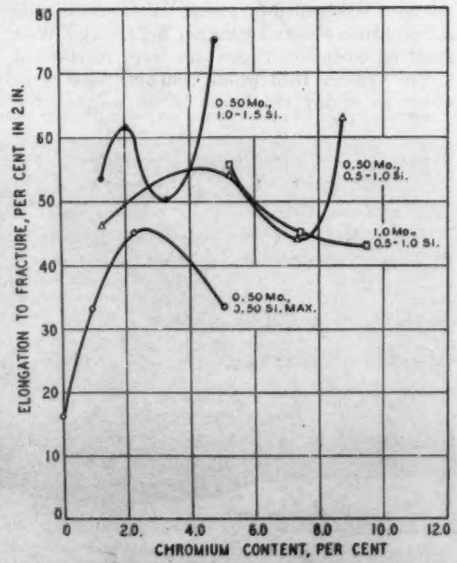


FIG. 3. EFFECT OF VARYING CHROMIUM CONTENT ON THE DUCTILITY TO FRACTURE AT 1200° F.

At a Louisiana location the engineering department examines the hardfaced joints after the welder has finished

Use of Hardfacing Material On Rotary Tool Joints

By T. P. SANDERS

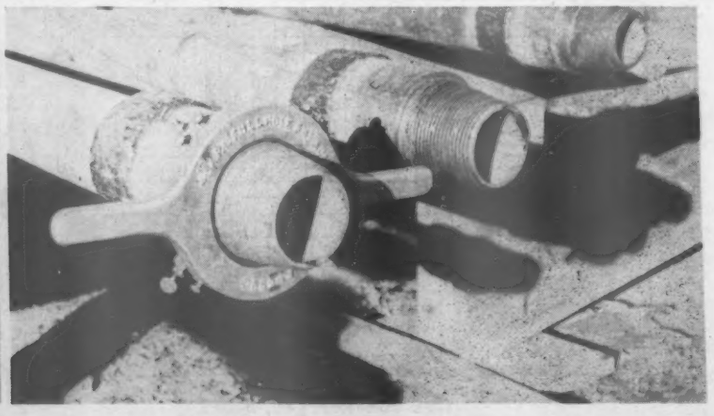
The tool joints used on rotary drilling rigs are expensive machines made from metals which are becoming scarce. Increasing the life of these joints is an important part of rig operation at the present time. Types of material and a discussion of the methods used are included in this article.

THE need for making equipment last as long as possible has led to a wide acceptance of hardfacing as a solution to tool-joint wear. This is especially true in California where many new joints are now being hardfaced before they are put into use. In the Mid-Continent area hardfacing has been applied to new joints for over 6 years and is also used on worn joints, an application that is becoming increasingly popular as transportation difficulties develop. Since the work is carried on at the rig, dependence upon overtaxed trucking facilities is avoided.

Acceptance of tool-joint hardfacing in California has been accelerated by results made public from comprehensive tests conducted by a major West Coast oil company. These tests were carried out in the Ventura field where drill-pipe wear is as severe as in any field west of the Rockies. The tool joints were calipered after each run, and extensive tests showed that joints hardfaced with the electric-tube tungsten-carbide rod lasted two and one-half to three times as long as the unfaced joints. Calculating that a saving of $50 per joint could be made with hardfacing, the company standardized on the tungsten-carbide rod and laid down a definite procedure for its use, which is hereinafter described. The process is used for hardfacing new joints, resleeved joints, or slightly worn joints.

In the Mid-Continent fields near Wichita Falls, Tex., one of the large steel companies recently conducted tests to determine the most suitable hardfacing material for building up worn joints. A "self-hardening" electric welding rod was adopted which is a high-carbon high-crome manganese silicon iron-base alloy. While softer than the tungsten-carbide rod, it is cheaper and therefore desirable for building up worn joints where a thicker coat is required. Its hardness is 52-54 on the Rockwell C. scale, as compared to the tungsten-carbide hardness of 9 plus on Moh's scale.

Both of the electric welding rods that are being



Left: Integral-joint drill pipe showing how the pin ends of the joints have been built up by hardfacing. Right: Refacing the thread shoulder on a joint that has been hardfaced. This string is in use near Perkins, Okla.

Top: Hardfaced joints on integral-joint drill pipe showing extent of wear after 24,500 ft. of drilling in the Bryson, Tex., area. Center: In California many new and resleeved joints are hardfaced in the manner shown. A recess is machined out at the elevator shoulder, and tungsten-carbide hardfacing is deposited in the recess. Bottom: Worn joints rebuilt with high-carbon high-chrome silicon manganese hardfacing alloy. Two and a half pounds of tube were used per joint

widely used in the hardfacing of tool joints, i.e., the tungsten-carbide rod and the self-hardening rod, are of the tube type rather than the cast type. This means that the tungsten carbide, or the hard alloy as the case may be, is held as grains in a fabricated steel tube. When the tungsten-carbide electrode is applied to the tool-joint surface, the grains are not fused but are retained securely in a steel matrix. This is in contrast to the self-hardening rod where the grains are completely fused with the tube to form a homogeneous iron-base alloy on the tool joint. The tungsten-carbide rod used in electric welding differs from the tungsten-carbide rod employed by acetylene welders in that the grains of tungsten carbide (WC-W_2C) within the tube are coated in manufacture to prevent their breaking down under the greater heat of arc welding.

There are some joints which should not be hardfaced after they have been applied to the drill pipe but which can be hard-faced before installation. Controlled technique in the manufacturer's shop will permit the hardfacing material to be put on the joints without danger of damage and with the assurance that satisfactory performance will be obtained. In general, these joints are the type which are shrunk on the drill pipe; if such joints are heated when on the pipe they do not shrink back sufficiently to obtain their original grip.

Restoration of the joint to its original diameter by applying weld metal to the outside should not be attempted unless it is supervised by an expert who understands the peculiarities of all the various types of tool joints. The heat of welding expands the joint and relieves the stress with the result that the joint is loosened on the pipe and subsequent leakage or failure may occur.

A few general rules apply to the hard-facing of all types of tool joints:

1. Before the hardfacing is applied, the joint should be preheated to a temperature of approximately 300° F. to take the chill out of the steel.

2. It is good practice to weld the joints to the pipe with mild steel electrodes before applying the hardfacing.

3. A copper form should be used to help obtain a square elevator shoulder, but such a form cannot be used when the tungsten-carbide electrode is used.

4. In running a bead around a tool joint which is lying in horizontal position on a pipe rack, a smoother application of hardfacing can be obtained if the welder will work from the top of the joint down, rather than from the side nearest him toward the top. With the molten metal running downward behind the electrode as the welding progresses, ridges or waves in the hardfacing are largely avoided and there is far less likelihood that the finished facing will be out of round. This recommended procedure also makes it natural for the welder to "drag" the electrode over the surface rather than push it, and this technique makes for faster progress.

5. It is unnecessary to hardface both the pin and the box of a joint. On integral-joint drill pipe the pins should be hardfaced, but the boxes of all other types of tool joints should receive the application. Where the tool joints are the type attached by the flash-welding process, the boxes are built up in a manner similar to that set out under "Worn Joints" except the welding of the joint to the pipe with a mild steel electrode is not necessary.

6. When self-hardening alloy is being applied, 25 to 50 per cent more amperage should be used than is customary with the coated mild-steel rod. The additional heat is necessary for proper fusion of the alloying metals.

New or Resleeved Joints

When new joints are to be hardfaced the work is carried out before the string is sent to the field. Each of the elevator shoulders is recessed ⅛ in. deep in a band 1 in. wide, and the hard metal is deposited in this recess. This is done so that an application of sufficient thickness can be made without resulting in oversized joints. Thin applications are to be avoided because they have a tendency to become undercut, thereby serving to nullify the effectiveness of the hard metal.

In California worn joints are often turned down and rebuilt to the original diameter by shrinking a sleeve over the machined surface. Such resleeved joints can be hardfaced by the same procedure as that used for new joints.

The aforementioned tests made by a West Coast oil company were carried out on resleeved joints, and it was found that the electric-tube tungsten-carbide electrode gave the best results from an economic point of view. Application of a 1 by ⅛-in. band at the elevator shoulder required 1 lb. of hardfacing material per joint, and a welder ordinarily completed four joints per hour.

Worn Joints

All joints, with the exception of integral-joint drill pipe, are rebuilt on the box end only. Common practice calls for welding the joint to the pipe with a mild steel electrode before hardfacing. A copper form is then butted up against the mild steel deposit and the joint is rebuilt to its original size, using the self-hardening high-carbon high-chrome manganese silicon iron-base alloy electrodes. In the past it has sometimes been contended that this type of hardfacing should not be applied where it will come into contact with the elevators, since there is the possibility that shock might cause chipping of the facing. However, no chipping has ever been attributed to this cause, and it is now definitely believed that all observed chipping has been due to the hammer-like blows which often occur when drilling inside of casing without rubber protectors.

Most experience has indicated that a deposit of self-hardening alloy 2½ in. wide on each box provides ample protection against wear, provided that it is located at the elevator shoulder where it will prevent fluid-cutting and barrel-shaping of the joint by abrasion. Application of a band of this size requires about 35 minutes welding time and 2 to 4 lb. of electrode, depending upon the

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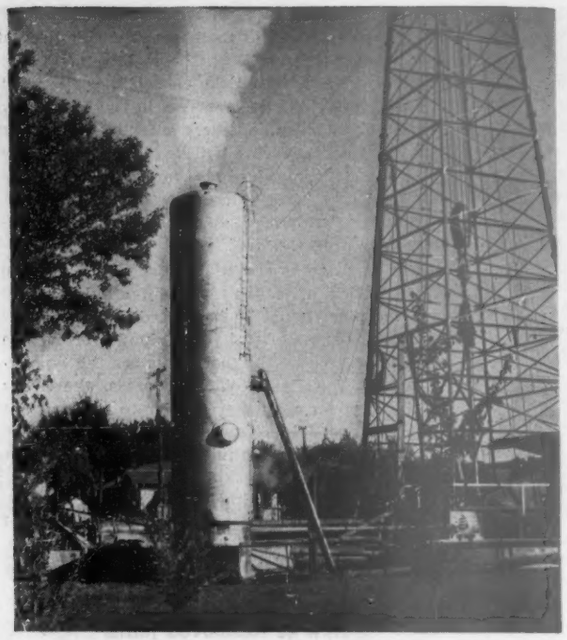
Operating Ideas



Separator Used For Muffler

Rotary drilling rigs have grown quieter as the years passed but are still far from noiseless. In remote areas, the noise is not a nuisance but in town drilling considerable care must be taken to avoid complaints. One drilling contractor in Oklahoma uses an old separator to reduce the vibration and noise from the exhaust of the pumps and steam engine. All connections are removed from the separator and the outlet normally used for the removal of gas is left open.

Rack For Test Bombs

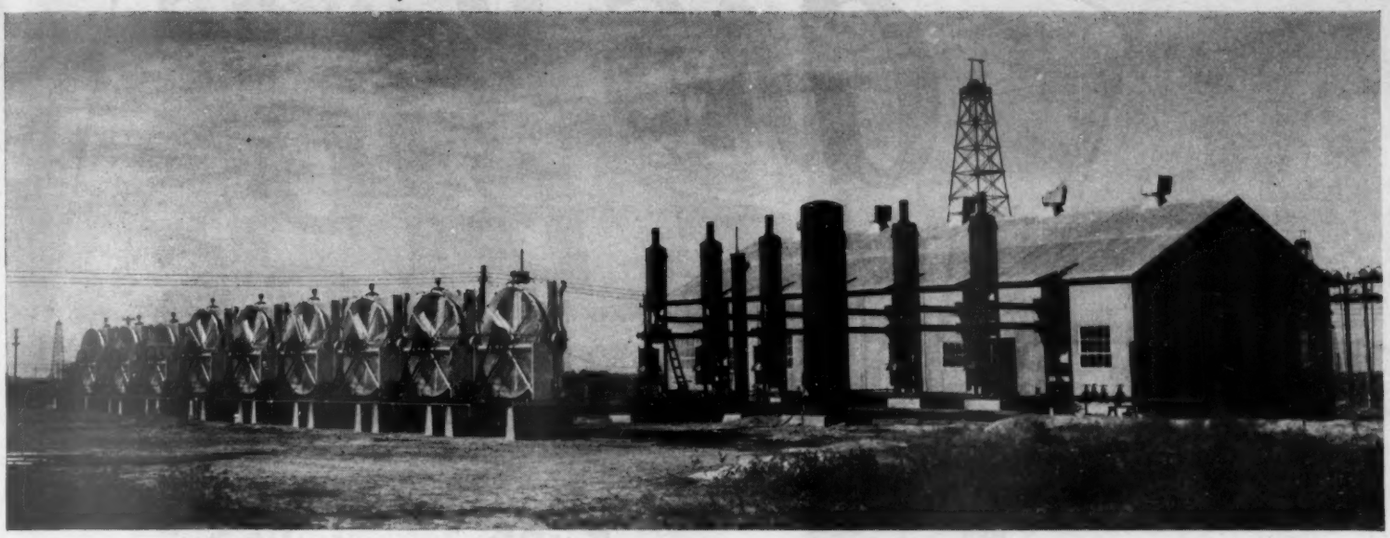
Testing of gas and distillate wells requires a number of chambers or bombs which must be handled carefully while full or empty. The accompanying picture shows the method used by one engineering department in the Falfurrias, Texas, field. The rack is made from old sucker rods and will hold bombs of two different sizes. It was built by the company welder.

Swinging Crane Supports Suction

Rigs used for working-over jobs generally have to use the old mud pits which are at the well site. The mud-circulating pump has to be equipped with an extra-long suction and the erection of a suction rack to handle it is often difficult. One operator in the Aransas Pass field, Texas, uses a swinging crane and rope falls for adjusting the level of the suction. The crane also is very useful for putting the suction in place while rigging up.

Cover For Well Connections

Wells adjacent to the railroad right-of-way in the Benbolt field near Alice, Tex., have the christmas-tree connections below the ground level and are covered by steel plates. This prevents any chance of sparks from passing locomotives getting into the cellar, where some oil may have accumulated, and starting a fire. As the lids are heavy, a special frame made from pipe and equipped with pulleys is provided for attaching counterbalances. Weights used are old disk bits.



General view of the Big Lake Oil Co. generating plant, showing the motor side of the fan-cooled radiator sections, makeup cooling water storage tank and in the right background the engine-generator building

Central Generating Plant Installed at Big Lake Field

By D. H. STORMONT

The electrical-generating plant of the Big Lake Oil Co. was built to supply current for the pumping of 150 3,000-ft. wells and to supply current for other needs. The leases were already equipped with a transmission system and electric-pumping rigs and it was necessary only to design and build a plant. The field is in the settled-production stage as it has been producing for 19 years and the power requirements could be closely estimated.

PROBABLY the largest electric-generating plant ever constructed to supply power for oil-field pumping and other uses was placed in operation by Big Lake Oil Co. the first of this year in the Big Lake field of Reagan County, West Texas. The plant's principal load is in supplying electric power for pumping 150 wells 3,000 ft. deep. In addition it is supplying energy for the company's oil-gathering stations, main pump station, oil-treating plant, natural-gasoline plant and the camp and stores at Texon. Preliminary test runs were started in December but routine operation was not undertaken until the first of the year.

Principal features of the 2,250-kw. capacity plant were the provisions for insuring continuous operation, design of the cooling system, safety devices for protection of the gas engine-generator units, and the wide range in flexibility available to meet varying load conditions. The plant is very compact in layout. Since it was first started it has given trouble-free operation and has fully met all requirements.

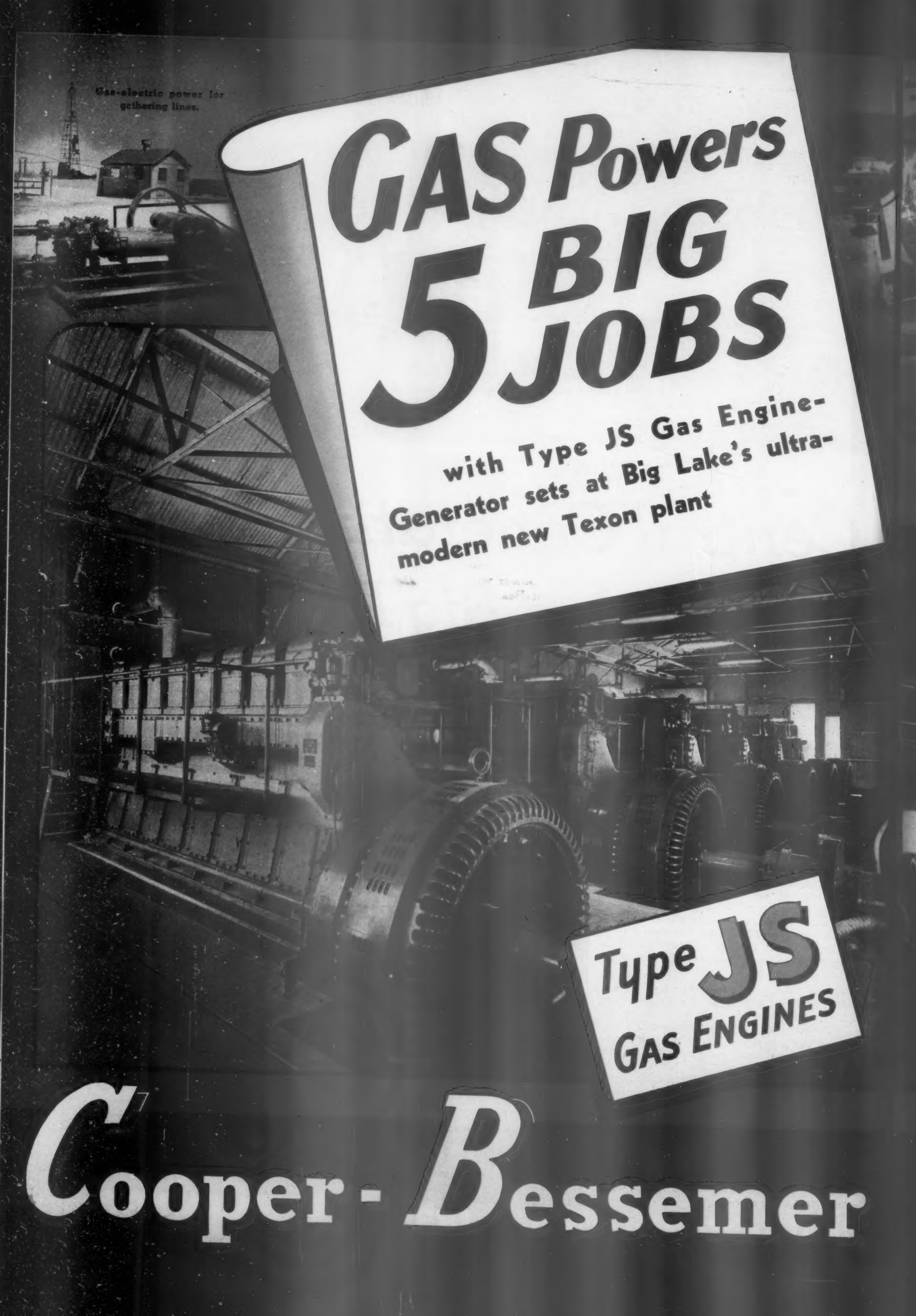
The Big Lake field, discovered in July 1923, was the first field in West Texas to be electrified to any extent. Adoption of electric power took place in 1927 when Pecos Valley Power & Light Co. completed a large generating station in northeastern Crockett County and built a 44-mile line into the field. Big Lake Oil Co. at that time spent about $750,000 in erecting its own distribution system throughout its leases and in installing electric motors for pumping and other uses. In switching to its own power supply, therefore, it was necessary only that the new power plant be tied into the distribution system.

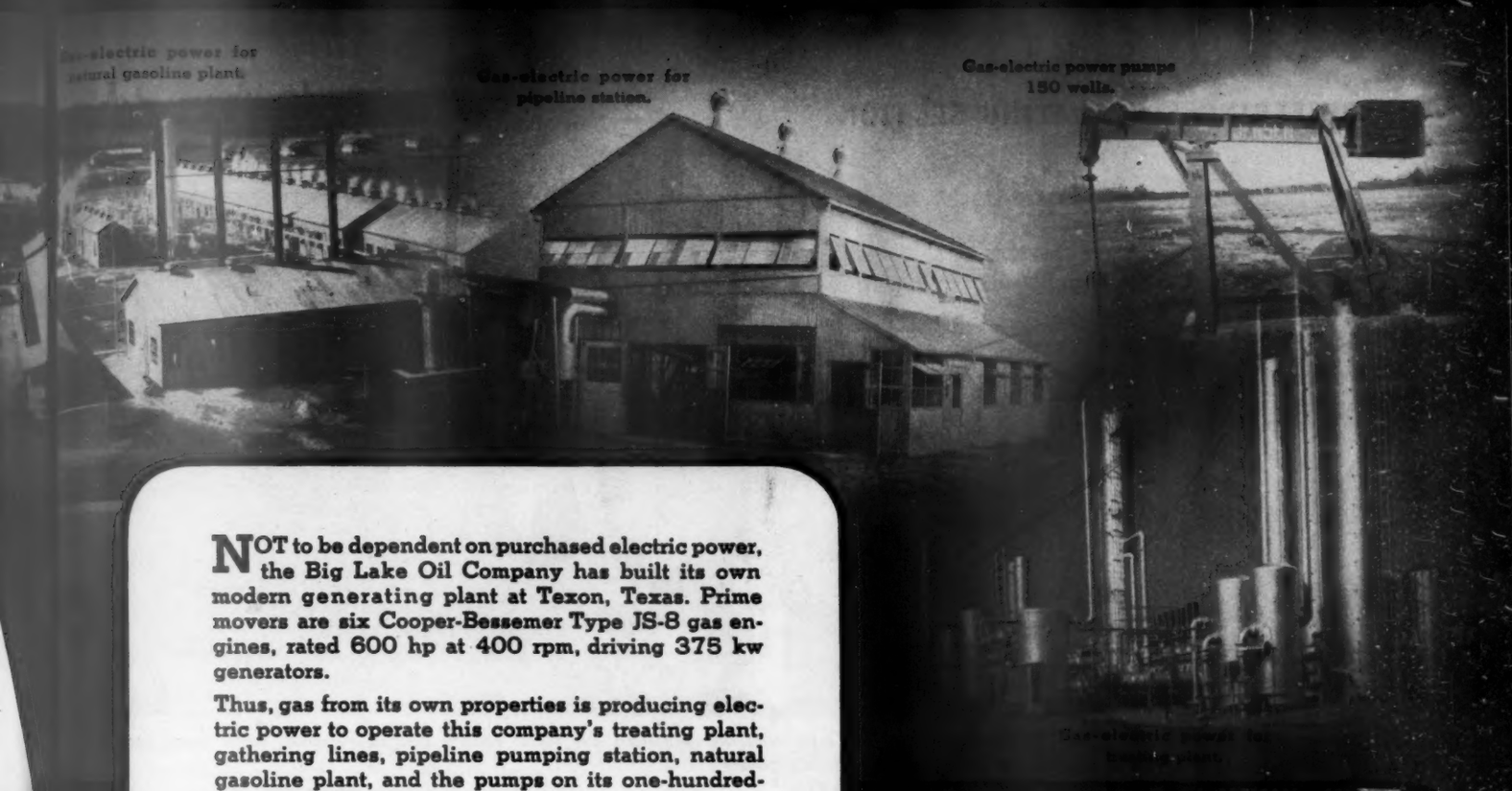
Chief reason for the company's decision to generate its own electric power after purchasing it for over 14 years was the loss of gas-sale contracts. Receipts from the sale of its gas in the past served to offset the company's $12,000 monthly power bill. With this revenue lost it was decided that it would be more economical to use the gas for generating its electric requirements.

Before deciding to undertake the project, cost of which was in the neighborhood of $200,000. Big Lake devoted much time to the design of the proposed plant. Since the plant was to supply power to properties which had been producing oil for more than 18 years and were in a settled stage

(Continued on Page 44)

In normal operation five of these six gas-engine generator units are operated, the sixth being used as a standby. Each 625-kva., 2,400-volt, three-phase generator and 9-kw. exciter is driven by a vertical, eight-cylinder 600-hp. gas engine


Gas-electric power for gathering lines.
GAS Powers 5 BIG JOBS
with Type JS Gas Engine-Generator sets at Big Lake's ultra-modern new Texon plant
Type JS GAS ENGINES
Cooper-Bessemer



Gas-electric power for natural gasoline plant.

Gas-electric power for pipeline station.

Gas-electric power pumps 150 wells.

NOT to be dependent on purchased electric power, the Big Lake Oil Company has built its own modern generating plant at Texon, Texas. Prime movers are six Cooper-Bessemer Type JS-8 gas engines, rated 600 hp at 400 rpm, driving 375 kw generators.

Thus, gas from its own properties is producing electric power to operate this company's treating plant, gathering lines, pipeline pumping station, natural gasoline plant, and the pumps on its one-hundred-fifty 3,000-foot wells.

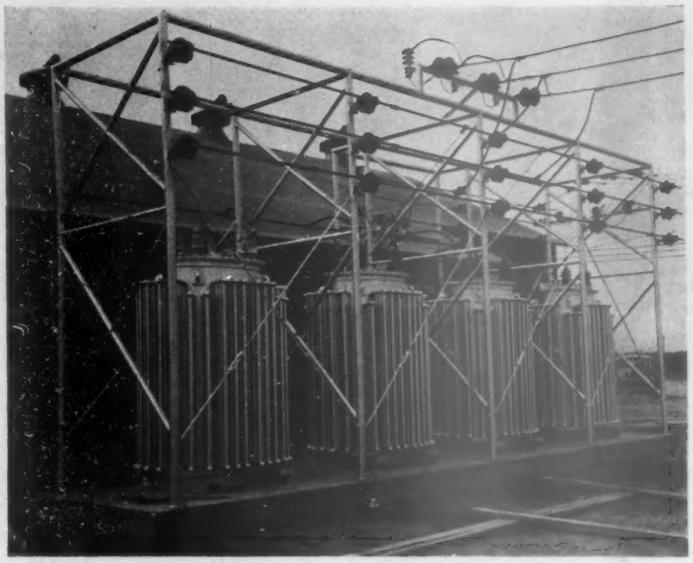
Are you seeking low-cost power for your oilfield operations? Then you'll be interested in the economies of producing your own electric power with your own products — gas or oil. Cooper-Bessemer representatives will be glad to give you the facts and figures indicating numerous advantages for this type of power plant.

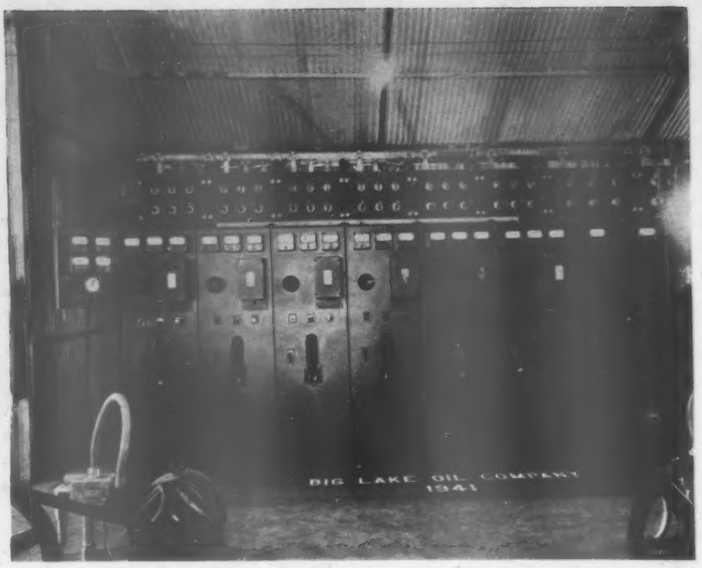
Big Lake Oil Company is in the forefront of a new trend. Learn more about this trend by phoning or writing our nearest sales office.

THE COOPER-BESSEMER CORPORATION
MOUNT VERNON, OHIO

Two views of the gas engine-generator sets in Big Lake power plant. Left photo shows the operating side, right the exhaust side. Type JS is a 4-cycle gas engine with Cooper-Bessemer's many uhique construction advantages, built in 5, 6, 7 and 8 cylinder units, convertible to diesel.

Engine Builders since 1833





Left: Main transformer station consisting of four delta-connected 1,000-kva., 2,400-13,800-volt transformers, any one of which is used as a standby. Right: Control board for the six gas-engine generator units, from which point all of the six units are regulated

of production, costs of necessity had to be held to a minimum. Likewise it was necessary that a thorough study be made of recoverable oil in the reservoir, and an estimate made of the field's probable life in order to assure that cost of the plant was justified.

After having drawn up preliminary plans the company's electrical engineer, Frank B. Shepard, visited electric-generating plants in several Mid-Continent and eastern fields. By so doing, and after consulting with electrical and construction firms, it was possible to incorporate best features of plants that had given successful operation into the design of the Big Lake plant. The final plans were drawn by Lewis Balbinot, electrical and mechanical engineer of the Cooper-Bessemer Corp., and B. D. Atwell, electrical engineer of the Westinghouse Electric & Manufacturing Co., under the supervision of Mr. Shepard. Construction was started in the spring of 1941.

The plant is designed to generate 2,250 kw. at 60 per cent power factor or 2,400 kw. at 64 per cent power factor, utilizing six 600-hp. gas engines as prime movers. In normal operation only five of the units are used, making it possible to keep a sixth unit as a standby in event of trouble with one of the other five. As a precaution against a possible shortage of gas during the field's last years, the engines chosen are easily converted to use of diesel fuel without changing liners or pistons.

The six engines are vertical, four-cycle, eight-cylinder Cooper-Bessemer units, rated at 600 hp. at 400 r.p.m. The cylinders have a 13-in. bore and 16-in. stroke, and are equipped with oil-cooled pistons. Auxiliary equipment installed on each unit includes: A shaft extension for the generator, outboard bearings and an extension for the exciter drive; drilled and tapped holes for exhaust-temperature measuring devices; lubricating oil and starting air-pressure gages mounted on the gage board; thermometers for the oil and water systems; two sets of oil filters and a Pickering mechanical governor with a motor-operated synchronizing device. The mechanical governor on each engine is also equipped with a 115-volt single-phase, split-winding, three-wire alternating-current motor, controlled from the switchboard. This arrangement makes for easy synchronization on the engine-generator units.

Engines Protected

Each engine is equipped with a thermocouple for each cylinder, located in the drilled and tapped holes in the exhaust manifold, directly at the outlet of each cylinder, all of which are wired to an eight-point Alnoy pyrometer mounted on the engine. This pyrometer is for the purpose of determining the exhaust temperatures of each cylinder of each unit.

A low lubricating-oil pressure switch and a high water-temperature switch is installed on each unit. These switches close an electric circuit on an alarm system when the lubricating-oil pressure drops below that which the switch is set for, or the jacket-water temperature rises above that for which the high water-temperature switch is set. The alarm system consists of a small motor-driven siren mounted in rear of the main switchboard, upon which is mounted two vertical banks of lamps of six in each bank. One bank consists of red lamps to indicate high jacket-water temperature and the other bank is of green lamps to indicate low lubricating-oil pressure. Each lamp is numbered to correspond to the engine it identifies.

A fuel-gas reservoir of 17.4-cu. ft. capacity is also installed on each engine. A 3-in. Crawford sensitive regulator is used between the fuel-gas header and the reservoir to reduce the gas pressure from 8 oz. to atmospheric pressure, or below, in the reservoir. The range of this regulator is very wide, permitting great variation in the B.t.u. content of gas used as engine fuel. The piping size in this low-pressure circuit is ample for wide variations in load, yet holding the air-gas ratio constant at all loads. Through these provisions it is possible to obtain the best speed regulation and economy of operation.

Each engine is equipped with a Maxim silencer to reduce exhaust noises. Also an American Cycoil oil-bath inlet air filter so that perfectly clean air

ALLIED
Sectional Steel Building
Chosen to House
LARGEST ELECTRICAL GENERATING PLANT EVER CONTRUCTED TO SUPPLY POWER FOR OIL FIELD PUMPING
in the BIG LAKE FIELD, Regan County, West Texas
ALLIED PRODUCTS STEEL
1407 N. PEORIA
STEEL BUILDINGS FOR EVERY NEED
● MANUFACTURERS: steel sectional buildings, ventilators, tool houses, tool boxes, grating, tubing boards, loading racks, specialties.
● SERVICES: fabrication, erection, dismantling.
Write for New 1942 Catalog.
Allied Steel Products Corp.—Tulsa, Okla.

enters the engines at all times if the filters are properly maintained. The inlet air filters are equipped with suitable backfire relief valves to protect the filters against the high pressure of backfires.

The compressed air used for starting the engines is provided by two compressors. One is a combined gasoline or natural-gas engine-driven two-stage unit, used for starting up the plant the first time and in case the plant is down and the air supply is exhausted. The second compressor is electric-motor driven. It is automatic in operation, therefore keeping the air supply at 250 lb. pressure at all times. This compressor is a Curtis 6½ by 3⅜-in. unit, driven by a 5-hp. Westinghouse motor. The air-storage tanks consist of six 24-in. diameter by 83½-in. high steel bottles.

Electric Generators

The engines are direct connected to 625-kva., 2,400-volt, three-phase, 60-cycle Westinghouse a.c. generators, normally rated at 375 kw. at 60 per cent power factor. Sheaves on the extension to the generator are used to drive, through V-belts, 9.5 kw., 125-volt, 1,750 r.p.m. shunt-wound Westinghouse exciters. High-speed belted exciters were used because they respond more rapidly to the voltage regulators than would 400-r.p.m. units direct-connected to the main generators.

The distribution and transformer system already installed throughout the Big Lake properties was for 13,800-volt current. Rather than install 13,800-volt generators, however, 2,400-volt machines were selected as cost of this equipment and necessary transformers for stepping up the voltage to 13,800 volts was some $6,000 less. The power factor of the generators is necessarily low (60 to 64) because bulk of the plant's load is a pumping load.

Each of the six engine-generator units is provided with individual generator and feeder panels, grouped into one control board at the center of one side of the building. The chief items associated with each panel are the controls for the governor motors, disconnect switches, oil circuit breaker, voltage regulator, ammeter and wattmeter. The wattmeter makes it possible to divide the load equally among the six generators operating in parallel and shows when a generator is running as a motor and driving a crippled engine.

A synchroscope, two voltmeters, a power-factor meter and a frequency meter are mounted on a swinging panel at the left end of the board. One of the voltmeters shows the line voltage and the other the voltage of a generator being put on the line. Since each engine governor is equipped with an a.c. switchboard-controlled motor, it is possible for the operator to adjust the speed of the incoming unit from his position at the board. Sockets for lamps are provided in case the synchroscope is out of order.

There are three feeder circuits, one for the plant load which must be in operation at all times; the second handles the camp which has both motor and lighting load; the third feeder handles all of the field load.

Cooling Systems

Two separate water systems are provided for cooling the engine-jacket water and for circulating water to the lubricating-oil heat exchanger. The reason for not interconnecting the two systems is that the jacket water is carried at a record-high temperature (for engines of this type) of 165° F., whereas it was desired that the temperature of the lubricating-oil system be kept as low as possible. In normal operation the engine-jacket water rises from an inlet temperature of 153° F. to the outlet temperature of 165° F. The lubricating-oil heat exchanger system was designed for a 10° F. "approach," i.e., the temperature of the outlet oil (approximately 140° F.) is 10° higher than the inlet temperature of the water to the heat exchanger.

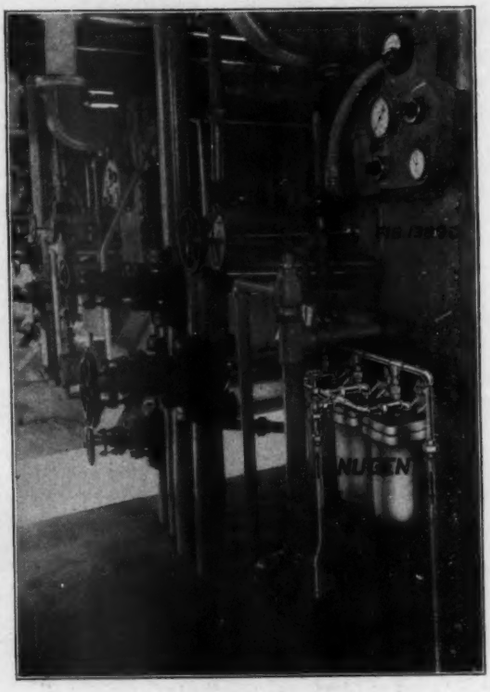
A unique system of header arrangements on the engines and on the fan-cooled radiator sections permits constant circulation of water through the cooling system regardless of the number of engine-generator units in operation. Six Happy-Young radiators with fans driven by 10-hp., 1,160-r.p.m. splashproof motors, are provided for cooling the jacket water; water for circulating to the lubricating-oil heat exchangers is cooled in three smaller units having fans driven by 7½-hp. motors. Capacity of the jacket-water cooling system is 2,000 g.p.m. and that of the lubricating-oil system is 475 g.p.m.

Hot water from the engines flows into a common header, from which a 12-in. line delivers it to a surge tank. From the surge tank the water flows to the intake of an Allis-Chalmers centrifugal pump, rated at 2,000 g.p.m. against a 60-ft. head and direct-driven by a 40-hp., 1,750-r.p.m. splashproof motor. Two such pumping units are provided and by means of manifolds either can be operated while the other acts as a standby. The pump discharges the water into a line leading to a common header from which lines lead to the engine jackets.

The system for circulating water to the lubricating-oil heat exchangers is identical to the jacket-water system except that smaller-size piping is used and the dual pumps provided are each

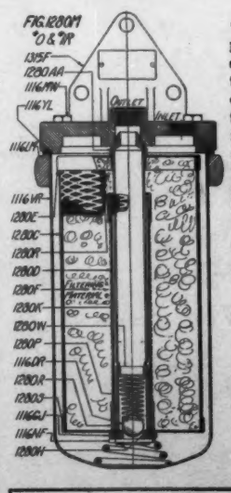
NUGENT *Pressure* FILTERS

Assure Clean Lube Oil for COOPER-BESSEMER Diesels at Big Lake Oil Co. Plant



• In keeping with the advanced engineering features incorporated in the oil industry's newest, most modern electrical generating plant, you will find NUGENT FILTERS protecting Diesel engine lube oil against dirt troubles. This new plant is at Texon, Texas, built by the Big Lake Oil Co., where Cooper-Bessemer Diesels furnish electric generator power to meet pumping requirements at various locations.

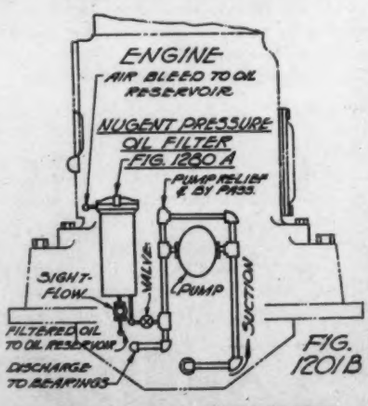
The filters (shown at the right) are all of the patented, improved, absorbent (depth) type, especially applicable to Oiling Systems where space is limited and oil circulation is very large. For this reason, plus their proven ability to keep oil free from particles as small as .0003", Nugent Filters were a logical choice at this new plant.



• A simple and effective "by-pass, partial-filtering" installation is used at the Texon plant, which permits the piping of only the oil that is actually to be filtered to and from the Filter. This usually is a small fraction of the amount circulated and the filtered oil exhausts into the oil reservoir, at about atmospheric pressure. Turning the valve in the filter inlet pipe shuts off the filter for cleaning, which takes about ten minutes. (Refer to Fig. 1201-B, at the right, for diagram of a typical installation.)

•

Shown at the left is a cross-section view of a typical Nugent Absorbem (Depth) Type Pressure Filter, such as those installed at the Big Lake Oil Co. plant. Note rugged construction and extra-large filtering area.



WRITE FOR COMPLETE DATA AND LITERATURE

Wm. W. Nugent & Co., Inc. Mfrs.

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices Sight Feed Valves, Flow Indicators, Compression Union Fittings, Oil Pumps, Etc.

408 N. HERMITAGE AVE. Established 1897 CHICAGO, U.S.A.

These photographs show front and rear views of the fan-cooled radiator sections used for cooling the engine-jacket water and lubricating oil. The two systems are not interconnected. Scale traps and air traps are mounted on each line connecting the radiator sections to the common manifolds

rated at 475 g.p.m. against a 50-ft. head. The jacket-water system is designed to maintain a minimum pressure of 26 lb. at the inlet on the engines; the oil-cooling system for a minimum pressure of 21 lb. at the heat-exchanger inlet.

Scale traps containing baffles are placed in the lines leading into the tops of the radiator sections. These act to slow down the water and permit any scale to drop out for removal through bleeders placed at the bottom of the traps. Air traps are placed on top of the scale trap, the highest points in the system, and permit any air freed in the scale traps to escape from the system.

Boiler feed-water condensate hauled from the natural-gasoline plant is used as cooling water. The water is stored in a reserve tank and jetted into the cooling system by compressed air as is needed. The makeup water enters the cooling system at the tops of the surge tanks, which are equipped with float indicators that show the height of the water in the tanks at all times. The surge tanks also serve the dual purpose of keeping a pressure on the cooling-water pump intakes at all times, preventing any gases from entering the system. As a further precaution against possible corrosion of the lines and radiator sections, the cooling water is treated with the Aluminate process.

Due to these provisions for constant circulation and the absence of any dead-end pipes, no antifreeze is required for the cooling system. Since the systems are entirely closed, makeup water requirements are less than 1 bbl. a week. Control of the temperature of the cooling systems is very simple: it is necessary only to start up or shut down additional radiator sections as the water temperature requires. During cold days of the past few weeks it has been necessary to operate fans in only one of two of the jacket-water radiator sections, and only one of the units for cooling the water for the lubricating-oil heat exchangers.

Controls for starting up and shutting down of the nine radiator sections are placed in the generator building. Each of the fan motors has its own feeder system, with a magnetic push button, cross-the-line starter and a De-ion circuit breaker. Each of the cooling-water-pump motors, likewise, has its own feeder system, with its manually operated oil-circuit breaker and cross-the-line starter placed near the fan-motor controls in the generator building.

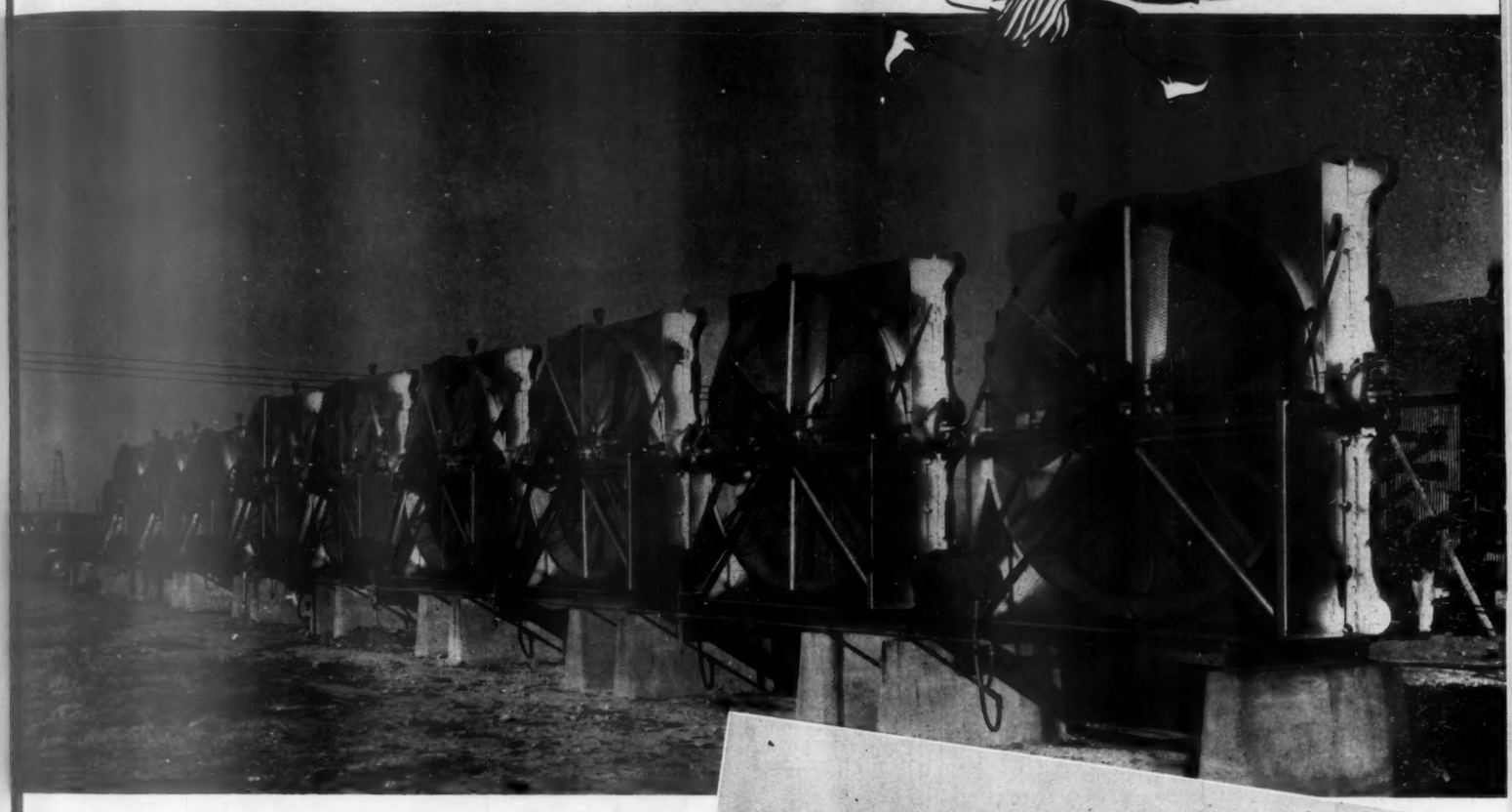
The gas engines are operated on residue gas piped from the natural-gasoline plant at 22.5-lb. pressure to a volume tank. The purpose of the volume tank is to allow the gas to slow down so that any dirt or moisture will drop out. The fuel gas then enters the engine header through a Fisher pilot-operated regulator which reduces the pressure to 8 oz.

Distribution System

As previously stated, the current for field usage is stepped up from 2,400 volts to 13,800 volts upon leaving the building. Electricity for the camp system, however, is taken directly from the feeder panel at 2,400 volts. The main transformer station consists of four delta-connected, 1,000-kva., 2,400-13,800-volt units, one of which is a standby, with connections arranged at the base so that any one can be disconnected and the standby hooked on in less than 10 minutes. The secondary is connected to a switching structure

(Continued on Page 54)

HAPPY IS STILL CHASING HEAT



From Indiana to the Rio Grande — from Montana to New Orleans — in fact wherever cooling has presented a problem — HAPPY Airfin Cooling Equipment is on the job.

If you need cooling for:

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- NATURAL GAS
- COMPRESSED AIR
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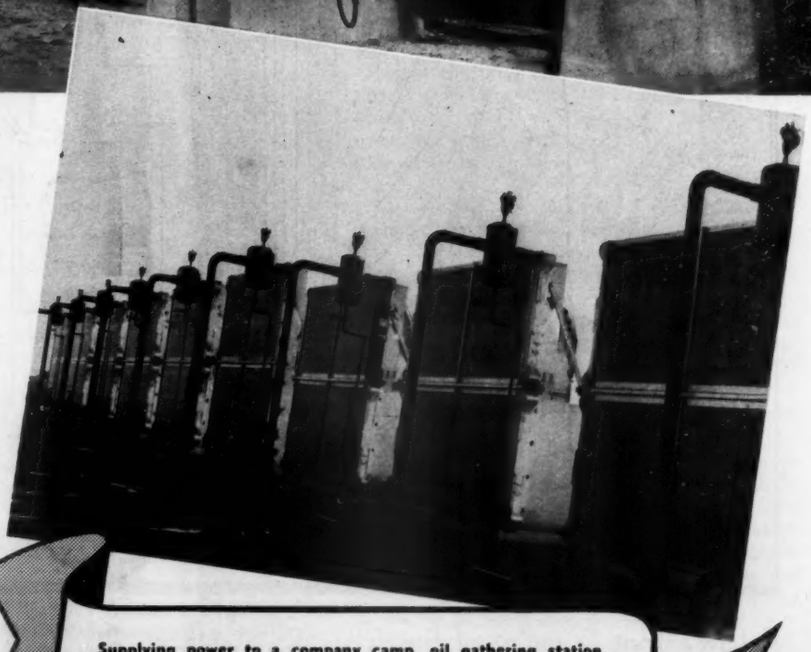


Supplying power to a company camp, oil gathering station, treating plant, pipe line pump station, natural gasoline plant and 150 wells of 3,000 foot depth, this huge electric power plant of the Big Lake Oil Co. uses HAPPY Airfin Cooling Equipment exclusively. The six 600 H. P. Cooper-Bessemer gas engines of this plant use 3 units for cooling lubricating oil and 6 units for cooling jacket water.

The Happy Company
TULSA, OKLAHOMA

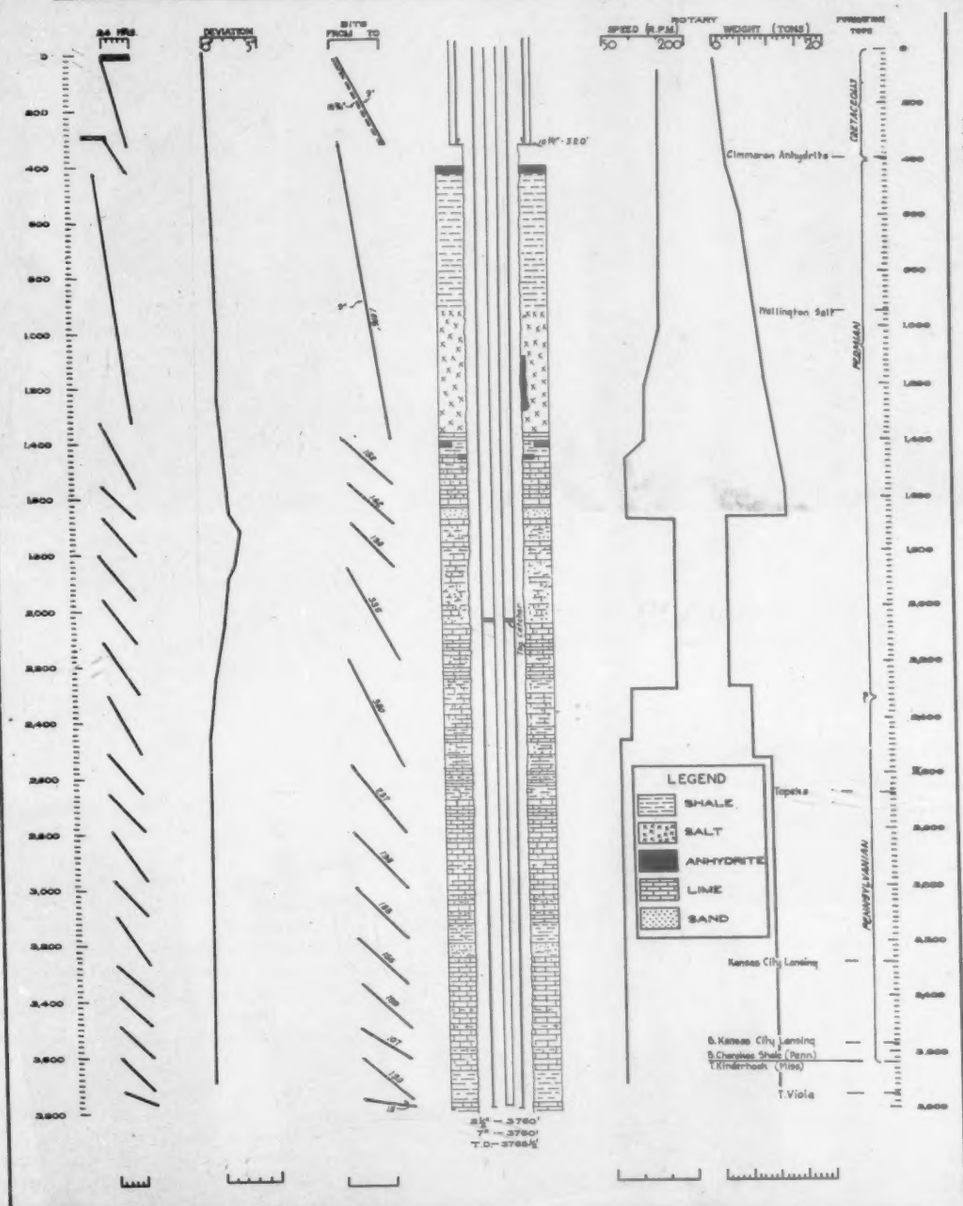
MINIMUM WATER—EXACT TEMPERATURE CONTROL
SCALE ELIMINATION—LOWER MAINTENANCE COSTS
ECONOMICAL USE OF ANTI-FREEZE

JOURNALOG

LEADER OIL CO. 1 TONN
SW SW SW 11-23s-10w

MERCURY DRILLING CO.
CONTRACTOR

EXTENSION TO PEACE CREEK FIELD, RENO COUNTY, KANSAS



Date started: 10-30-41
Rigging up rotary: 2 2/3 days
Drilling started: 11-3-41

Days drilling rotary	20
Days shut down:	
W.O.C.	2
Coring	0
Circulating	1/2
Logging	1/3
Breaking down and running casing	2/3
Trips, repairs, etc.	3
Net time rotary drilling	13 1/2

Set casing: 11-24-41

Rock bits used—	No.	Size
Surface	1	9"
	1	13¾"
To casing point	14	9"
Total*	16	

CASING AND TUBING RECORD

Size—	Weight (lb./ft.)	Setting depth (ft.)	Cement (sacks)
10¼-in.		260	125
7-in.	22	3,760	100
2½-in.	6.70	3,760	

CABLE TOOLS FROM 3,760-65½ FT.

Days rigging up	1 1/3
Bailing and drilling cement	1
Drilling—Bailing	2 2/3
Running tubing	2/3
Shut down	1
Total cable-tool time	6 2/3

Oil: Black
Gravity: 43° A.P.I. at 75°
Viola pay 3,760-65½ ft.

*A portion of the hole was drilled while straightening up was in progress. Some of these bits can be used again.

Relative Hot Ductility of Steels Shown by Stress-Rupture Data

(Continued from Page 35)

the ductility to fracture at 1,200° F. with the chromium content. With chromium contents of 1.0 per cent or greater the ductility is always in excess of 30.0 per cent but it does not vary uniformly with the chromium content. An increase in the silicon content from 0.50 maximum to either 1.0 or 1.5 maximum improves the ductility while an increase in the molybdenum content from 0.50 to 1.0 per cent has little influence, except in the presence of 9.0 per cent chromium.

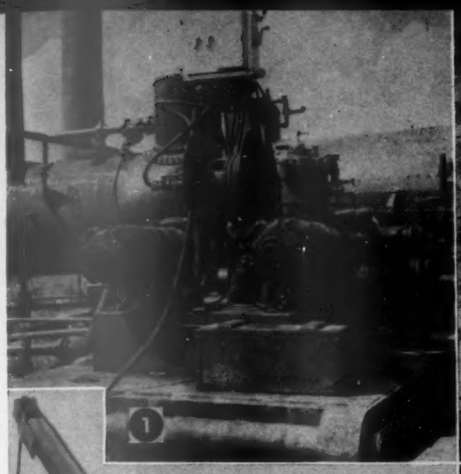
All of the results presented were obtained under simple tension stresses and it is of course possible that the complex stresses present in tubular members may have an influence on the ductility to fracture. Likewise, the atmosphere to which the steel is subjected is an important factor, especially if it is one which is apt to cause intergranular attack. Tests conducted under standard conditions should, however, evaluate the various steels on a comparative basis and give indications at least as to their relative degree of expansion prior to fracture. In the selection of steels for service in which overheated, and thus overstressed, conditions are likely to exist it would certainly appear logical to choose those showing a high degree of ductility to fracture over the temperature range which may be encountered in service.

●

Standard of Indiana Makes Defense Bonds Available

CHICAGO.—Standard Oil Co. (Indiana) announced that it has instituted an optional payroll deduction plan by which employes may purchase defense bonds.

Employes have been notified of the arrangement through the company's publication.



Efficiency Increased By Rig Unitization

By D. H. STORMONT

SINCE a rotary rig represents idle investment when it is not making hole, the field personnel of drilling companies unceasingly attempt to devise methods and equipment which will result in reducing the time required in rigging up and dismantling. Also, when once rigged up, they strive to make certain that, the equipment may be operated with a minimum of time and effort and with maximum safety.

In so far as reducing the moving time is concerned, efforts usually have been directed toward unitizing the various pieces of machinery into as large units as moving equipment will permit. In addition, however, many minor improvements are continually being made by members of the drilling crews or tool pusher, which permit some par ticular job to be done easier or more quickly. These devices or ideas vary widely in their scope.

In the Hawkins field of eastern Texas, one company operating several rigs has carried out unitization to a high degree. All of the rotaries are steam powered and are practically identical in their design and layout. Much of the equipment on any one rig can be replaced by that of another as a temporary measure. In addition, operating ideas or minor improvements in equipment devised by the crew of one rig have been adopted on other rigs.

The boiler plant and feed-water equipment is handled as shown in Fig. 1. The feed-water pumps, superheater, and steam turbine-driven light plant are mounted on skids placed immediately alongside the boilers so that connections are easily made and minimum pipe required. The light plant is placed at one end of the skid and is bolted to a steel box which also serves as a storage compartment. For holding the electric cable used to transmit current to the derrick floor and other points, a reel is mounted on uprights between the two generator units. The controls and switches for the generators are placed in the box above the reel.

Unitized Lines

To simplify handling of steam and water lines each time the rigs are moved onto a new location or dismantled, the lines handling the live steam and the return lines are joined into sections. As shown in Fig. 2, short nipples are welded to the steam line, and the 2-in. water line is run through 2½-in. nipples welded to the outer end of the nipples parallel to the steam line. The ends of the pipe in each 20-ft. section are equipped with hammer-lug unions to permit quick makeup and breakout. Rigidity of the sections facilitates moving, and by their being unitized fewer joints of pipe have to be handled.

In Fig. 3 is shown a windlass devised to facilitate handling of the steam jet used to empty an intermediate pit in the mud-return line. The jet is suspended from a pulley at the apex of a frame which straddles the pit and swivel joints in the steam line from the frame to the jet provide power to actuate the flow. The level from which mud is jetted is regulated by means of the small windlass mounted on the frame. A walkway is provided around the frame by the sucker-rod grill and steel platform, while a heavy eye welded at the top of the frame permits lifting of the entire unit for moving without risk of damage to the pulley or fittings.

Sample Dryer

To facilitate ease with which changes may be made in the height of the mud-suction lines, the gear shown in Fig. 4 was incorporated into the suction-line suspension frame. The gears and wheel used were taken from a discarded gate valve and due to the large stepdown in gears the mud line is raised or lowered very easily. The short piece of steel forms a stationary pawl to engage the herringbone gear and prevent it from turning backward once the height of the mud line is established.

In Fig. 5 is shown how advantage is taken of the heat radiated by the steam line to dry rotary samples. The frame is constructed from old pipe, with short pieces of ⅛-in. steel wire welded around the inside. These form hooks on which the sample bags are hung to dry. A steel rod welded across the frame permits the rack to be picked up for moving to a new location.

At most drilling rigs the supplies of lubricating oils are stored in the 55-gal. drums in which they are supplied, necessitating handling of the drums each time the rig is moved. Also provision must be made for a rack of some type for holding the drums, and a means for drawing oil from the drums. At this rig the problem is simplified by the three long steel drums mounted on the same skid with the tool house (Fig. 6). Spigots are provided for drawing the oil, while a chain hoist is used for raising the drums to pour oil into the storage tanks. The tanks are held securely in place by means of steel straps equipped with turnbuckles.

This lube-oil storage has a capacity of two and a half drums for each of three types of oil.

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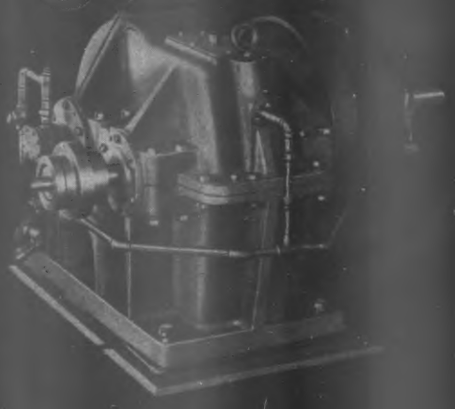

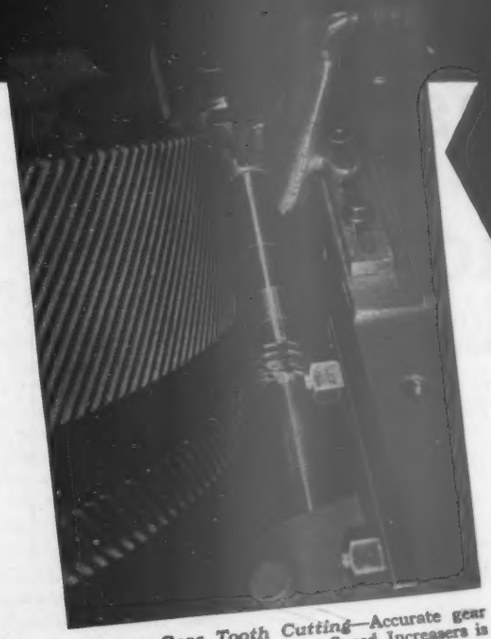

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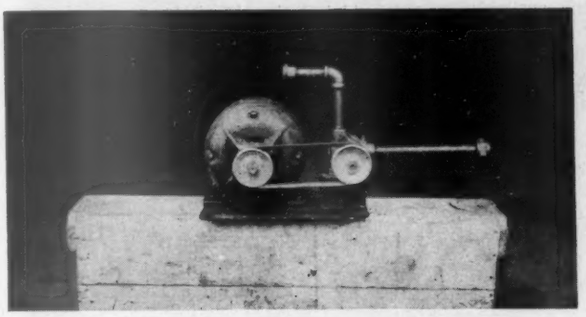
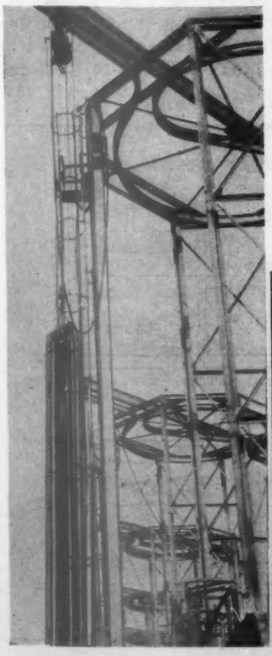


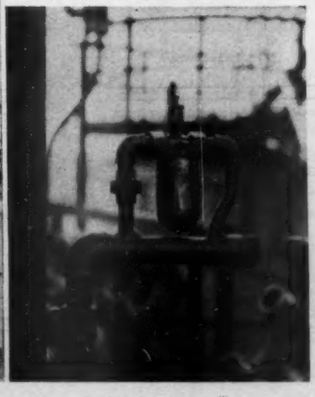
Pump Fitted For Quicker Connection

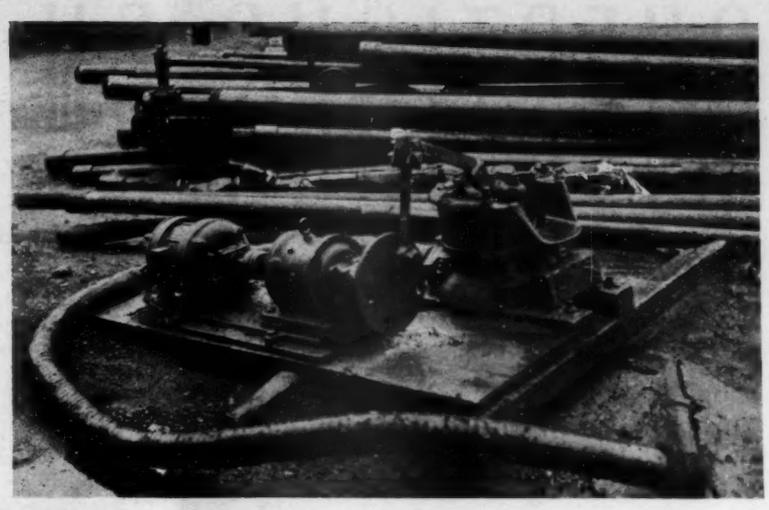
This small rotary pump is powered by a ¾-hp. motor through a V-belt. Both the pump and motor are permanently affixed to the steel base, making the unit easily portable. It can be plugged in at any point on the refinery's electric-light circuit. The unit is used for a variety of small jobs such as taking drum samples from tanks.

Cleaner For Vertical Still

This "gang" cleaner is used for knocking out the coke from the vertical tubes as part of a cracking still. Ten cleaners in the bank make it possible to handle that many tubes at once. These turbine-powered cleaners are driven by air supplied from a single header hung from a hoist. In order to obtain uniform speed on the cutting tools throughout the full length of the tubes a control for regulating the air feed to the hoist and for raising or lowering the multiple cleaner has been installed. A lubricator feed into air line to turbines is shown at right.







Slush Pump Assembled to Handle Emergencies

Two or more men were usually required for the operation of a slush pump of this type. The pump handle was attached to an eccentric driven through a reduction gear by an electric motor. It was first used in a foundation pit close to a creek and kept the pit dry throughout the time it was being dug and while the foundation was being installed.

Utility Truck With Welded Arms

When tank truck bodies are being painted in this refinery's paint shop they are placed on trucks like that shown here. This makes it possible to turn them any way to take advantage of the best light and provides a suitable resting place for them while drying.

Two-Wheeled Cart For Fire Chemicals

This partially completed truck will provide transportation for refinery fire-fighting equipment. The handle was made of old tubing, the bed is made of wood and the wheels and axle were reclaimed from a junked car. Yet to be installed are holders for foamite pails and injector, reels for hose, nozzle racks, and so on.

QUESTIONS ON TECHNOLOGY

Cost of Synthetic Rubber

We are skeptical about the manufacture of rubber from petroleum, especially the cost of the new rubber. Our experience shows that the price of synthetic rubber is very high.—J. A. P.

It is true that at present the cost of the so-called synthetic rubbers is higher than that of natural rubber. To a large extent, however, the high cost is due to the fact that the present production is extremely small and to some extent at a stage of development that is partly experimental. The production is small compared with the 1941 consumption of natural rubber.

	July 1941 (tons)	Jan. 1942 (estimate) (tons)
Buna types	5,000	10,750
Neoprene	6,500	9,000
Thiokol	1,750	1,750
Polyvinyl chloride	5,000	6,000
Natural rubber	800,000	.....

The prices of rubbers as given by H. I. Cramer before the Atlantic City meeting of the American Chemical Society, are as follows:

	August 1941 (per lb.)	Equivalent price (per lb.)
Natural rubber	$0.23	$0.23
Buna S	0.60	0.22
Neoprene GN	0.65	0.17
Perbunan	0.70	0.22
Thiokol F	0.45	0.15
Vistanex	0.45	0.24
Koroseal (30 per cent plasticizer)	*0.60	0.16
Hycar OR	0.70	0.23

*Estimated.

The equivalent price is apparently the price at which the synthetic product must sell in order to compete with natural product, being partly dependent upon the properties of the synthetic as compared with the properties of the natural product. Unfortunately, the potentially important rubber known as Butyl rubber is not included in the above list because it is possible that Butyl and Buna S rubber will be the types that will be employed in the present emergency. Reclaimed rubber has been selling for 6 to 8 cents per pound during the last 2 or 3 years.

Should these prices be the minimum at which the synthetics can be produced, it should be noted that the cost of the finished fabricated and delivered rubber product will not cost 2 to 3 times the natural rubber product (as indicated above for the raw rubbers) but will cost only 25 to 75 per cent more due to the large proportion of the retail cost that goes for fabrication, transportation, retail sale, etc., rather than material cost. Thus a $12 to $15 tire would contain less than $2 worth of raw rubber.

The above consideration is, however, unfair because without doubt the cost of synthetic rubber will be greatly reduced from the present prices. The costs will be reduced by large-scale production, by the gaining of a more complete knowledge of the processes that are being used, and by the development of cheap raw products by those industries (petroleum, coal-tar, etc.) which will wish to serve the new industry. Indications already point to the possibility that butadiene and styrene may already exist in sufficient quantities as byproducts of the petroleum and coal-tar industries, respectively. Butadiene is produced in small amounts in the decomposition, dehydrogenation, etc., of butanes for 100-octane aviation fuel and other gasoline products. The yield of butadiene could be purposely increased, and at yields of 5 to 8 per cent, the total requirement of butadiene would be readily available. Likewise, large amounts of styrene are said to be present in the xylene fraction obtained during coal-tar distillation (being previously used in creosotes, etc.) or it could be made from benzene and ethylene.

The fundamental stocks in the petroleum industry are butanes and possibly crude-oil residues from which butenes and butadiene gases might be produced by decomposition and dehydrogenation. On a pound basis these stocks are worth less than 0.6 cent. The conversion of these materials into butenes, butadiene, etc., should not cost more than $1 per barrel at the most or a per pound cost less than 0.5 cent. Add liberally to these figures for such costs as transportation, condensation or polymerization processes, large material losses, profits, depreciation, taxes, larger fabrication costs, etc., and by no means can prices greater than about 10 to 15 cents per pound be justified. Nevertheless, the cost of the first rubber that will be produced will be high, and we may need to wait 2 or 3 years before the cost of synthetic rubber will be less than that of natural rubber. Recall also that the price of natural rubber might under duress drop to 5 to 8 cents per pound in competition with the new synthetic product.

Odorizing Natural Gas

We are contemplating the introduction of a stench into our gas to give notice about leaks. Can you direct us to references as to the equipment that is used for this?—P. W. R.

Most of the methods of introducing stenches into gas are for somewhat extensive gas systems although one type, known as the wick-type odorizer for domestic service, is suitable for small or individual installations. This equipment consists of a metal container for the stench, which is screwed directly into a connection on the gas line that leads to the meter. It contains a wick which extends into the line and the stench flows slowly up the wick.

The Oklahoma Natural Gas Co. has made a survey of the use of stenches and of equipment used to introduce the odorizing materials. Roy W. Parker of that company states of the 127 companies questioned, 64 per cent use stenches (or plan to), 32 per cent did not or did so only occasionally, and 4 per cent used sour gas for this purpose.

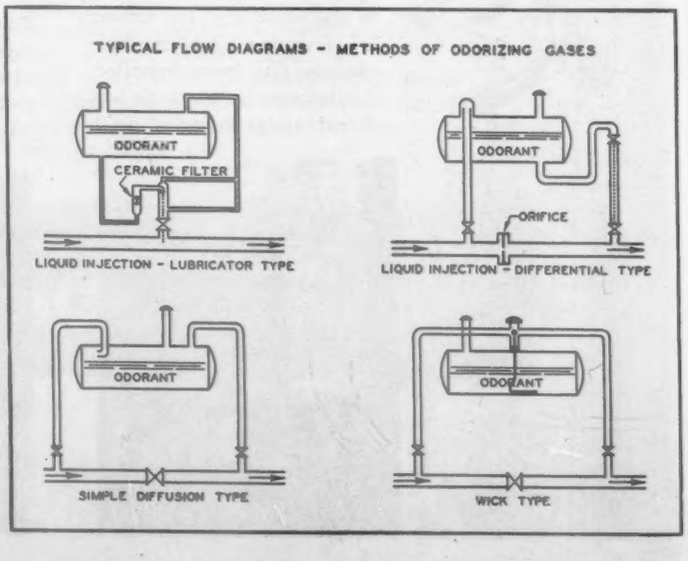
There are about eight different types of odorizing equipment:

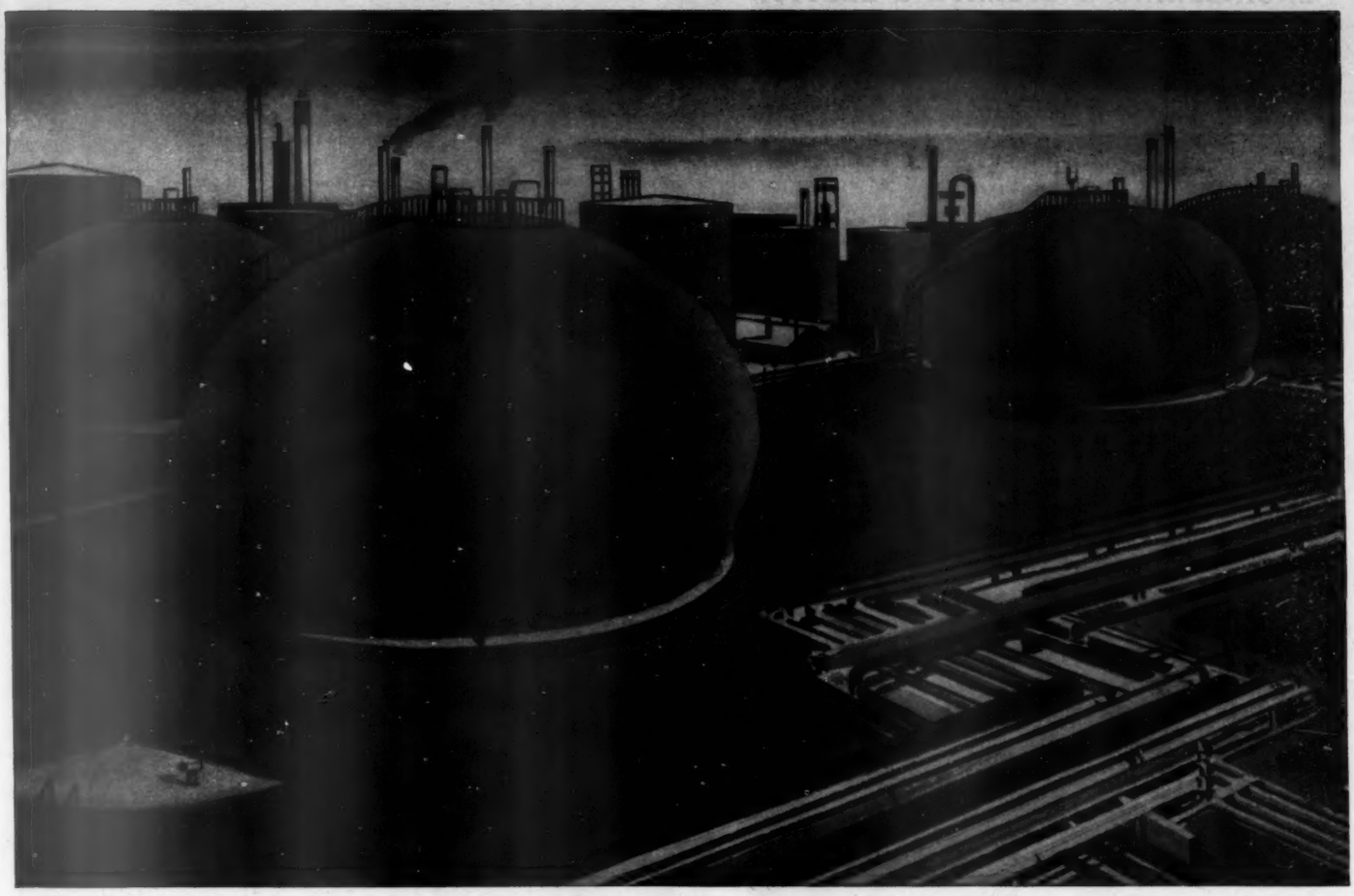
1. Liquid injection, lubricator type.
2. Liquid injection, differential controlled type, varying head.
3. Liquid injection, differential controlled type, constant head.
4. Automatic pressure-differential controlled type.
5. Bypass, wick type.
6. Bypass, liquid seal type.
7. Bypass, simple diffusion type.
8. Wick-type for domestic service.

The best or at least most elaborate of these is the automatic odorizer. This equipment will operate satisfactorily at varying gas pressure, for different rates of flow, and with any of the common odorants. In the figure on this page are shown seven illustrations of how odorants may be introduced into gas.

The liquid-injection lubricator type is based on the slow seepage of the odorant fluid through a porous ceramic filter. The differential type for liquid injection operates by the slight suction that is caused by an orifice meter. In this type the rate at which the odorant is introduced is not constant because the height of liquid in the odorant storage tank gradually decreases. The diffusion type functions entirely by evaporation of the odorant liquid as the gas passes over its surface. In the wick type the liquid creeps up the wick and evaporates into the gas.

The following articles pertain to the use of stenches and the equipment required: H. G. Caldon, Gas Age, September 14, 1939; Briscoe and Caldon, Gas, April 1938; T. S. Whitis, Gas, January 1938; W. A. Green, Gas Age, March 31, 1938; T. S. Bacon, Gas Age, June 20, 1940, and Smith and Williams, Gas Age, August 3, 1930.





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Use of Hardfacing Material On Rotary-Tool Joints

(Continued from Page 39)

extent of wear of the joint. Sometimes the joints are worn as much as ¾ in. on diameter and it then becomes necessary to apply two layers of self-hardening alloy to bring the joints back to size.

Integral-Joint Drill Pipe

Only the pins on worn integral joints are rebuilt. This is done by first applying two 1½-in. circumferential beads of self-hardening alloy around the pin from 2 to 4 in. apart. This hardfacing metal is to absorb the wear, but it is necessary to build up the intervening area in order to provide tonging space. Horizontal beads of high-carbon steel are applied for this purpose between the two hardfacing bands. If the joints are the type attached to the pipe by the flash-welding process, or are unitized, the boxes are hardfaced. This includes both the joints which have a square shoulder or an 18° taper for engagement with the elevators.

Double-Pin Couplings

In reconditioning drill pipe which is coupled by means of double-pin subs, the subs themselves are hardfaced, and no metal is applied to the pipe boxes. The procedure used for rebuilding the subs is the same as described above for integral-joint pipe. Where wear is severe, as much as 12 lb. of high-carbon electrode and 4 lb. of self-hardening alloy may be required to bring the sub back to its original size. Rebuilding with these materials, however, usually doubles the life of the joints.

No Fishing Troubles

Hardfacing on tool joints has never been known to complicate a fishing job. After a short period of use, the hardfacing becomes smooth so that a socket or overshot can be inserted without difficulty over the joint, even though it has been built up somewhat above its original diameter. No trouble has been experienced in getting the slips to engage the hard surface. While milling of the hardfacing would prove difficult or impossible, this operation has never become necessary because the hardfacing is at the bottom of the tool joint. Milling is carried down only to the top of the first tool joint before the overshot is run.

It is estimated that there are now 14,000 hardfaced tool joints in use. The need for conserving transportation, as well as the shortage of metals, will have the effect of advancing the science of hardfacing and its acceptance by the industry far beyond the normal rate of progress.

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Central Generating Plant Is Installed at Big Lake Field

(Continued from Page 46)

to make it possible to isolate part of the field load when necessary. The steel structure supporting the transformers was fabricated by company welders at a substantial saving.

The primary lines of the field distributing system are 1/0 aluminum wires carried on standard pine crossarms and poles. Where the secondaries follow the primary lines they are underbuilt, otherwise they are carried on poles of the same type used on the primaries. The high-voltage current is stepped down directly from 13,800 to 440 volts for pumping use in 30 transformer banks. Majority of the motors used on the wells are rated at 15 hp. on the low side and 35 hp. on the high side, the first rating being used for normal pumping and the latter for use in pulling tubing. All of the 150 wells are pumped with standard rig fronts.

The power-generating equipment is housed in a sheet-metal and structural-steel building, of sufficiently heavy construction to support an overhead traveling crane used for handling engine parts. The building is fluorescent lighted and the floor is of waxed green pigmented cement. All pipe fittings are electric-welded and placed above ground wherever possible. Due to the corrosive nature of the soil, transite pipe is used as conduits for all electrical wiring placed underground. Within the transite pipe the wiring is also encased in lead conduits.

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BOOK REVIEW

OIL MANIA. Ernest C. Miller. Dorrance & Co., Inc., Philadelphia, Pa. 140 pp. $2.

This volume is devoted to an account of the "daily thundering herd of adventurers, speculators and teamsters" who descended upon the oil regions of western Pennsylvania shortly after the close of the Civil War. That portion of Pennsylvania became a bedlam, dotted with boom towns, such as Pithole, Red Hot, and Babylon, each jampacked with legitimate business men, but liberally sprinkled with a wide variety of camp followers, gamblers, crooks, and hangers-on. The book recounts the rush to secure leases, to drill new wells, to haul the oil to market.

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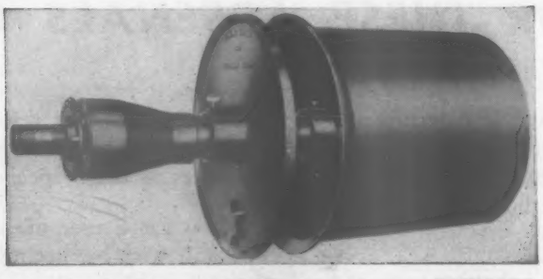

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REFINERY ACTIVITY AND EXPANSION

Oriental Refining Co. Buys Gramps Refinery

The Oriental Refining Co., which operates a refinery at Denver, Colo., has acquired the plant of the Gramps Oil & Refining Co., at Alamosa, Colo., as of December 14, 1941, and since then has been in charge of operation. The Alamosa refinery was built and put into operation 2 years ago by the William E. Hughes Estate, owner and operator of the Gramps (Price) field in Archuleta County. The Hughes estate will continue the producing of the field as in the past and the Oriental company has contracted for its entire output. The Continental company has been purchasing 250 bbl. a day of crude from the Gramps field under a contract which expires within a month or two. These shipments then will be discontinued. The products of the Alamosa refinery were sold to retail dealers in that territory and to the Continental company. The Oriental will continue to supply the retail outlets. E. M. Stringer, general manager of the Denver plant, will serve in the same capacity with the Alamosa refinery. Augustus Putnam, of Boston, is president of Oriental. The Alamosa plant is running 700 to 800 bbl daily.

James J. Johnson Elected Head of Chicago Company

CHICAGO.—James J. Johnson, chairman of the Johnson Oil Refining Co., Chicago, operator of a 5,000-bbl. refinery at Cleveland, Okla., has been elected president of the company. He succeeds I. H. Johnson, deceased, as the chief executive officer of the company.

G. C. Lilly has been elected vice president, a move that vacated his previous post of secretary. Seymour Dexter has been made secretary.

Higher Gasoline Octane Numbers Reported in Government Survey

An increase in the octane rating of gasoline sold throughout the United States in the summer of 1941 was revealed in the semiannual survey of commercial motor fuels made by the Bureau of Mines, Dr. R. R. Sayers, director, today reported to Harold L. Ickes, secretary of the interior and petroleum coordinator.

Based on tests made on more than 1,800 samples, it was found that the antiknock rating of regular and premium-priced gasolines dispensed at service stations was slightly higher than that of the previous summer of 1940. In addition, the survey disclosed that the antiknock and volatility qualities of all three grades of gasoline have shown a steady improvement in the past 5 years.

Representing the products of approximately 135 companies both large and small, a total of 1,857 samples were included in the survey. The samples included 86 brands of gasoline in the regular-price group, 78 in the premium-priced classification, and 74 brands in the third-grade-gasoline group.

During the past 5 years the average octane rating of regular-price gasoline has risen from 69.6 to 74.7, a gain of 5.1 units. The premium-priced grade has increased 3 units from 77.2 to 80.2, while the third-grade gasoline advanced 6.6 units from 57.3 to 63.9.

These surveys are made by the bureau in cooperation with the Cooperative Fuel Research Committee, which is a joint activity of the Society of Automotive Engineers, the American Petroleum Institute, the Automobile Manufacturers Association, and the National Bureau of Standards. Copies of Report of Investigations 3611, "Cooperative Fuel Research Motor Gasoline Survey, Summer 1941," by E. C. Lane, may be obtained without cost from the Bureau of Mines, Department of the Interior, Washington, D. C.

W.P.R.A. Replaces New Orleans Meet With 1-Day Business Session

Plans for the thirtieth annual meeting of the Western Petroleum Refiners Association have been changed entirely, according to J. C. Day, secretary-manager of the association. Instead of a 3-day session in New Orleans, La., the latter part of March as originally planned, there will be held at some central point such as St. Louis, Kansas City, or Tulsa, a 1-day, strictly business session. This meeting will probably be held the latter part of March, but definite details as to time and place will be announced shortly.

Decision regarding the annual meeting was reached by the board of directors of the association only after careful consideration, and is felt to be in keeping with sacrifices that organizations, as well as individuals, should make in these days of wartime's stress.

Efforts are being exerted by officials of the association to have an outstanding government official from Washington discuss with the refiners the importance of their industry in the nation's wartime economy. No other speakers or papers are contemplated. It will be a strictly business session.

New Vacuum Asphalt-Lube Oil Plant Nearing Completion

Union Oil Co. expects to complete a new vacuum asphalt-lubricating oil plant at its Oleum, Calif., refinery in April. The new unit will replace an existing tubular still unit.

At its Los Angeles refinery the Union company is installing equipment for the production and storage of isopentane to be used in the manufacture of aviation gasoline. This project will be completed in April. A gas reversion unit is under construction at the Los Angeles refinery and it will be completed the latter part of 1942. The company's production at its Oleum refinery includes 500 bbl. daily of Alkymer gasoline, the product of its alkylation refinery.

Senator Proposes Conversion Of Casper Refineries to 100-Octane

DENVER, Colo.—H. H. Schwartz, United States senator from Wyoming, was in Casper the past week in connection with proposals for the construction of 100-octane gasoline plants in the Rocky Mountains. He stated that Continental Oil Co. contemplated a $2,500,000 expansion program at its Glenrock refinery. This could not be confirmed in Denver on account of the illness of W. H. Ferguson, vice president. It is known, however, that the company has had the matter under consideration and that the Glenrock plant is so situated that it could expand to produce aviation gasoline. The company operates a natural-gasoline plant in Lance Creek.

Senator Schwartz indicated that efforts are being made to bring about some arrangement whereby one of the three refineries in Casper operated by Standard Oil Co. (Indiana), the Texas Co. and the Socony-Vacuum Oil Co., Inc., could be converted to the production of aviation gasoline at a cost of $3,000,000 to $4,000,000 rather than build a more expensive plant from the ground up. He said, however, that the companies "have not warmed up to the idea."

To Increase Topping Capacity

Shaw Petroleums (refinery division) plans to increase the capacity of its topping plant located at Lloydminster, Alberta, Canada, to 650 bbl. daily. The plant at present has a capacity of 350 bbl. daily.

Sketches of Plant Operators . . .

Blank & Stoller

WILBUR F. BURT is chairman of the refining committee of the Socony-Vacuum Oil Co., Inc., one of the industry's largest refining organizations. He was elected a director of the company in 1939. Under the petroleum coordinator's program, he is a member of the refining committee for District 1.

Mr. Burt started with the Standard Oil Co. of New York in 1912, as soon as he graduated from Amherst College. In Sone & Fleming Works he served in various capacities and in 1914 he was transferred to Queens County Works (now Pratt, L. I., refinery). He became second assistant superintendent. He served in the Army from 1917 to 1919, seeing service overseas. Upon his return he became superintendent of Pratt Works, Brooklyn, N. Y. Subsequently, he became general superintendent of the paint and cooperage department, later becoming manager of the safety and claim department. He later served as assistant to H. C. Smart, chairman of the manufacturing committee of Standard Oil Co. of New York. Upon Mr. Smart's retirement Mr. Burt succeeded him as chairman. Following the formation of the Socony-Vacuum organization, he became vice chairman of the Socony-Vacuum manufacturing committee. In 1935 he became chairman of the present manufacturing committee, which position he held until 1939.

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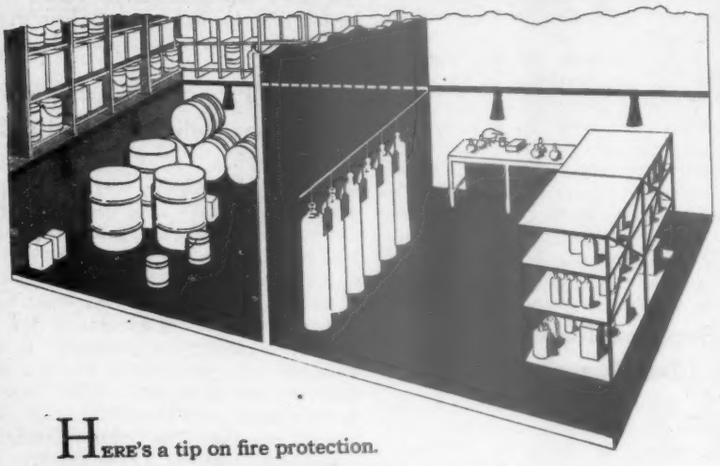

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Questions and Answers

Could drive pipe, which is impossible to pull by ordinary methods, be recovered by the use of portable coring machine? The plan would be to drill down alongside the pipe to free it. The pipe is generally stuck two to six joints from the top. Gravel will probably be encountered. Could mud be mixed which would prevent this from giving us trouble?—N. R. D.

Most coring machines are too light for the pulling of casing although they could be remodeled slightly and made suitable for this work.

Generally, the original movement is imparted to the pipe through the use of hydraulic jacks which will allow any required amount of strain to be placed on the casing. The procedure is to take a strain on the pipe, shoot it loose with 1 or 2 qt. of nitroglycerin and then keep the pipe moving with the jacks. The mast or derrick is used to handle the joints after they are unscrewed from the string. After the pipe comes free, it can be pulled with the regular hoisting equipment. An article describing the method used was written by D. H. Stormont and appeared on Page 54 in the November 27, 1941, issue of The Oil and Gas Journal.

The plan you describe is sometimes used on rotary drilling wells to free stuck surface pipe. A string of 1 or 2-in. pipe is run down alongside the stuck casing and a fluid stream at high pressure emitted from the lower end of this pipe. The 2-in. pipe is worked up and down and around the stuck casing, the debris and material holding the casing being loosened and pumped out of the hole. If a strain is kept on the casing, it will finally begin to move.

Another method used to recover pipe on rotary holes could be adapted to this problem. This is the washing over job where a larger string of casing is rotated down over the casing in the hole; circulation of fluid is maintained while rotating over is in progress and the earth and rock holding the casing removed. After washing over the casing, it can be picked up with the elevators, a spear or an overshot and brought out of the hole. This method is often used to remove long strings of pipe from the hole, the fish being cut into sections after being freed by washing over. The tools necessary to do this include a string of pipe larger in diameter than the fish or stuck casing, a rotary shoe, a circulating head, and something to pick the fish up with when it is freed.

There is also another possibility which might be attempted. A packer with slips on it can be run in on the drilling string of pipe and set in the bottom joint of casing. Fluid then can be pumped down around the stuck casing with a pressure up to several thousand pounds being applied. If circulation can be established in this manner, the casing can be freed and pulled from the hole. However, if a gravel deposit is known to be present, it is doubtful that much pressure could be built up before fluid began entering the formation.

In work of this type the mud used for a circulating medium will play a major part in the success or failure of the job. If a colloidal mud, having a low water loss and a good filter-cake characteristic, is used, gravel deposits can be sealed off an prevented from caving. The specific gravity of the mud should be kept as low as possible and some plugging agent may be needed to help form a seal.

At first glance, this might appear to be expensive but if a large-scale casing-recovery program is to be embarked on provisions can be made to take care of this mud. By using steel tanks for the mud it could be used on location after location with very little addition.

Pipe-Line Activity

Submarine Warfare Revives Plans for Big Defense Line

Petroleum Coordinator Ickes told correspondents that he intends to reopen a proposal to build the $80,000,000 National Defense Pipe Line from Texas and Illinois to the New York-Philadelphia area.

Admitting that the shipping situation to the East Coast has again become tight because of the sinking of oil tankers by Axis submarines and the additional transfer of tankers to the Pacific, Mr. Ickes said that the pipe line proposal may again be taken up.

Plans for the line were dropped when the Supply Priorities and Allocations Board last fall refused to grant priority orders for steel pipe needed for the line. At that time, the coordinator, as well as Army and Navy officials, warned that in event the United States entered the war, transportation of oil from the Gulf Coast to the eastern seaboard by tanker would become very precarious.

Mr. Ickes said the petroleum situation in the East, where rationing was imposed last summer, is "tight and getting tighter" as a result of ship tanker sinkings and diversion of such vessels to war service. He said that during the past 2 weeks, a large number of additional tank cars have been called into service from the Southwest to the East Coast, with shipments by this means increasing 86 per cent over the previous 2-week period.

Arkansas Natural Prepares To Lay 124-Mile Gas Line

Arkansas Natural Gas Co. will build a line from gas fields in the vicinity of Magnolia, Ark., to the aluminum plant which is now under construction at Malvern, Ark. The line will consist of 93 miles of 18-in. and 31 miles of 12-in., making a total of 124 miles; there will be three river crossings. Contract has been let to Midwestern Engineering & Construction Co., which is considering establishing a field office at Malvern. The line has been authorized by the federal Government with an A-1-a rating. Work is scheduled to start between February 10 and 15.

Socony-Vacuum Will Enlarge Outlet From Kansas Fields

Pipe shipments are expected to arrive early this month for laying 23 miles of 10-in. for Socony-Vacuum Oil Co., Inc., White Eagle Division, between Chase and Wherry station, Rice County, Kansas, according to reports. This will loop the company's trunk line and it is estimated that it will increase the capacity of the system by 20,000 to 25,000 bbl. Some work has already been done on the right-of-way. A contract for laying the line has been awarded to Fredell Construction Co.

Government Establishes Office of Aerial Photography Coordinator

For handling the variety of problems in connection with aerial surveys, the federal Government has appointed Marshall S. Wright as coordinator of aerial photography. Mr. Wright is a member of the Technical Advisory Board organized as part of the war program; he has been on the staff of the U. S. Department of Agriculture, which has made extensive use of aerial photography in recent years. It is believed that the establishment of a coordinator's office for this purpose will facilitate the making of aerial surveys required for pipe lines and other undertakings which contribute to carrying on the war.

Wisconsin Commission Refuses To Reconsider Phillips Permit

MADISON, Wis.—The Wisconsin Public Service Commission has announced denial of five applications for rehearing on its order granting the Wisconsin Gas Transmission Co. a provisional certificate of authority to extend a natural-gas pipe line into the state.

Chairman R. W. Peterson said last week, however, that the entire fight over natural gas in Wisconsin may be reopened by the Lea bill, now awaiting signature by President Roosevelt, which would require natural-gas companies to obtain certificates from the Federal Power Commission.

All three members of the Wisconsin commission voted to deny petitions for rehearing filed by the Wisconsin Coal Bureau, Inc., the Wisconsin Railroad Association, and Railroad Brotherhoods, the Coal and Ice Drivers and Helpers Union, the Wisconsin Natural Gas Co., and the city of Milwaukee.

"The applications set forth specifically the various grounds upon which they contend that the decision and order of January 2, 1942, is unreasonable and unlawful," the commission announced. "All of such matters were carefully considered by us and we deem that no useful purpose would be served by hearing the parties on such issues further."

Pipe Lines Are Compared With Other Freight Carriers

Pipe lines carried 9 per cent of the nation's freight moved by inland means of transportation in 1940, according to data compiled by the Equitable Life Assurance Society. All of the nation's freight-transportation facilities, including inland waterways and pipe lines, operated at the rate of 584 billion ton-miles in that year.

Railroads moved 91 per cent of the freight moving on wheels and 64.25 per cent of the total freight. The ton-mile figures estimated for each form of transportation are: Railroads, 375,285,000,000; trucks, 38,459,000,000; Great Lakes, 96,000,000,000; inland waterways, 21,651,000,000, and pipe lines, 53,622,000,000.

Pipe-Line Dynamiters Are Convicted in Second Trial

SPRINGFIELD, Ill.—Marking their second conviction in 3 months, seven men were found guilty January 29 by a Macon County Circuit Court jury in Decatur on malicious mischief charge in connection with an oil pipe-line bombing near Boody, Ill., in 1940.

The same defendants were found guilty in November of conspiring to dynamite the line, owned by the Texas Empire Pipe Line Co.

All are under sentences of 1 to 10 years on the conspiracy conviction but have appealed to the Appellate Court. Sentence was deferred pending arguments on new-trial motions.

For Lasting Protection WATERPROOF Your Pipe!

The one SURE way to protect your pipe is to keep out all corrosive agents. And this is exactly what NO-OX-ID Coatings and NO-OX-IDized Wrappers do! What's more, NO-OX-ID contains rust inhibiting chemicals which check any underfilm corrosion which may already be present. Dearborn Chemical Company, Dept. K, 310 S. Michigan Ave., Chicago.

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YARD WRAPPING . .

For coating and wrapping in your pipe yard or at railhead along the right-of-way, we offer our mobile type equipment consisting of complete cleaning and coating units manned by experienced operators.

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Mill coating and wrapping. Traveling Type coating and wrapping over the ditch.

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Size: 2"; Weight: 12 lbs.; Test Pressure: 6000 lbs.; Safety Factor (at 6000 lbs.) 7.3—that's UNIBOLT! (A ring joint flanged union of the same size and test pressure weighs 54 lbs. and has a safety factor of only 6.5)

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This is Ecolite Lantern No. 72—a double purpose, low priced electric lantern that gives a broad, brilliant floodlight or a 1500 foot focusing spotlight. These two features, plus the Ecolite pivot feature, makes No. 72 the most useful portable lantern in the industry.

No. 72 carries the Underwriters' Laboratories recommendation for use in Class 1, Group D hazards and gives a safe, dependable light under all conditions.

Available Now at Supply Stores.

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USE GUIBERSON PACKERS IN ALL WELLS NOW

If your well surface connections should be destroyed by enemy action or other causes — a GUIBERSON Packer installed in the well will —

1. Shut off the annular space between tubing and casing and prevent the well from flowing wild through the casing. (To render control of the well complete, in event of such emergency, flow can be prevented through tubing also, by installing automatic shut-off device in bottom of tubing.)
2. Prevent well from catching on fire.
3. Prevent tubing from dropping and being damaged.

The famous GUIBERSON H3R, C-1, and KV30 Packers not only will protect your wells in the ways described, but these packers will be found the most efficient and dependable yet developed for every application for which packers are required.

TYPE H3R PACKER

The GUIBERSON Type "H3R" is the ideal production packer. Ease in setting and pulling from well, full recovery of rubbers without damage, fluid by-pass when pulling, dovetailed slips and seamless steel mandrel of upset diameter, enable this packer to handle toughest well applications.

Packing rubber design is radically different. Consists of three packing rings of oil resisting compound, the end rings having molded-in steel bushings and hairpin reinforcing wires. Excellent for wells of any depth or in wells where differential pressures reach 6,000 lbs. per sq. in.

TYPE C-1 PACKER

GUIBERSON "Control Head" Packers are the most efficient all-purpose packers yet developed. Type "C-1" has 3" vertical valve opening and is a single-rubber packer. Packing medium is a long-lived, highly oil-resisting compound which will not disintegrate or stick to pipe.

Control-head feature is most valuable for running in flowing wells, in wells having heavy fluid, for testing purposes when tubing is plugged, and for acidizing purposes. Valve can be opened, or packer reset higher or lower at any time, by simple manipulation of tubing from surface.

TYPE KV30 PACKER

The GUIBERSON Type KV30 Packer is a tremendously tough and sturdy super-packer of our control-head type, developed to overcome a number of familiar packer troubles. Among its outstanding feaures are (1) its dual-type control-head valve, offering both a metal-to-metal ground seat and a composition valve sleeve, either of which would give a leak-proof seal; (2) its internally reinforced packing sleeve, assuring complete recovery even after being subjected to pressures of 6,000 lbs. per sq. in.; (3) its extra-sturdy anchoring device, with two massive 1¼" gudgeons.

Type KV30, here shown, has 30" valve lift. Type KV8 has 8" valve lift. Type K has no control valve.

For Further Information see GUIBERSON Section, 1942 Composite Catalog

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FIELD DEVELOPMENTS...

HIGHLIGHTS FROM THE WEEK'S NEWS—

Full effect of the 40-acre spacing required by M-68 was becoming clear in nearly every oil area of the nation last week. Operations were slowing down far below normal. The increase in completions—up 47 from the previous week—was misleading since most of the wells completed last week were started before OPM issued its blanket spacing order.

In spite of the fact that the announced intention of the spacing order was to cut down on the use of materials by cutting down the number of wells drilled, many operators still expressed hopes that the order might be amended to permit a resumption of normal operations. There was no indication that such an amendment might be expected soon.

At the same time, wildcatters, with no restrictions on materials, were hitting a lively pace in all areas. In fact, in Illinois, Kansas, Louisiana and California's Los Angeles Basin, they accounted for a large share of all the drilling.

Only exception to the general situation was in Arkansas where a first-class drilling boom was abudding at the new Midway pool in Lafayette County in spite of the wide spacing pattern.

What effect the forced curtailment of drilling would have on production was still a question. However, there seems no reason to doubt that production would fall off except possibly in Texas and Kansas which have long been under strict proration. No recent discovery had yet indicated it would grow into a field of sufficient proportions to offset the decline in number of new wells.

KANSAS: Drilling was slowed almost to a halt as operators waited for interpretation of M-68 spacing requirements (p. 65).

WEST VIRGINIA: One of the hardest hit drilling areas of the country was the Oriskany gas field where 43 operators were shut down because of 160-acre spacing required for gas wells (p. 66).

TEXAS GULF COAST: Another Wilcox sand pool was opened, second since the first of the year. It was due west of the Shepherd field in San Jacinto County. The North La Ward field, Jackson County, was defined on the southwest (p. 68).

WEST TEXAS: New pools were showing in Ward and Winkler counties, while extensions were reported for the Abell Ordovician pool, the North Cowden pool and the Sand Hills Permian pool. In Andrews County, a discovery well of Clear Fork lime production was being plugged back for completion after testing deeper zones without success (p. 61).

OKLAHOMA: Discoveries in Garfield and Pottawatomie counties followed close on the heels of the successful wildcat on the Navina high in Logan County and in the Panhandle, Gulf Oil Corp. was starting to core in what was believed to be the Simpson series (p. 65).

CALIFORNIA: A new record depth for the coastal district was set by Tide Water Associated Oil Co. in the Ventura Avenue field. The well was bottomed at 11,350 ft. and was still in the Pliocene, indicating that many a pay sand remained to be tested below present depths, and some Miocene pays may reasonably be expected to lie too deep to be tested under present conditions. Tupman field outpost may reveal valuable data on subsurface in the district (p. 62).

LOUISIANA GULF COAST: Geophysical work increased, pointing to an extensive wildcatting campaign soon. Wide spacing requirements had slowed field drilling appreciably, but the Bayou Blue dome, already one of the most active in the region with development of the north and east flanks, had a new test on the south flank (p. 68).

ARKANSAS: Biggest play in several months had already developed around the new Midway pool, in Lafayette County. Twenty-one locations were made on 40-acre units, and drilling was under way at several of them. While Barnsdall Oil Co.'s discovery well was producing from only one pay zone, two pays were logged and the Oil and Gas Commission was studying the advisability of permitting dual completions (p. 71).

MICHIGAN: Reed City was extended ¼ mile southeast by the first producer in Richmond Township. Like other Reed City wells, it was a big one gaging up to 266 bbl. an hour. Headquarters and Hopkins fields also had good new wells (p. 72).

COLORADO: The second of two wildcats near the Kansas line was a dry hole, but it was reported another would be started, this one to be in Prowers County (p. 67).

EASTERN TEXAS: Exploration continued in the Larissa-Bullard-Frankston area in spite of another Woodbine sand failure, the fifth in recent months. Rumored was a 10,000-ft. test to be drilled on a large block held by Humble Oil & Refining Co. (p. 71).

KENTUCKY: Completion of a 300-bbl. well in Henderson County near Reed, east of Green River, marked opening of a new McClosky lime pool (p. 64).

NORTH TEXAS: High discovery rate of recent months apparently was continuing with new pools showing in Foard, Archer, Clay and Shackelford counties (p. 76).

SOUTHWEST TEXAS: Possible production shown by an electrical survey and side-wall cores was being tested at a wildcat southeast of Orange Grove townsite, Jim Wells County. Attempts were also being made to extend the Seeligson structure in two directions (p. 73).

ILLINOIS: Twenty-two locations were abandoned, most or all of them because of 40-acre spacing requirements. Drilling was the slowest it had been at any time since the start of the basin play in 1937, but exploration continued (p. 70).

COMPLETIONS IN ALL FIELDS . . .

(Week Ended January 31, 1942)

	Oil	Gas	Dry	Total	Footage	Tfl. comp. to date 1942	Tfl. comp. to date 1941
N. Y., Pa., and W. Va.	78	13	4	95	194,168	514	419
Ohio	7	11	12	30	68,430	130	123
Indiana	1	1	2	4	7,148	57	37
Kentucky	5	1	3	9	9,287	52	56
Illinois	24	0	19	43	119,432	287	257
Michigan	10	2	2	14	36,084	81	72
Kansas	25	1	5	31	101,788	180	144
Nebraska	0	0	0	0	0	3	10
Missouri, Iowa	0	0	0	0	0	0	0
Oklahoma	19	4	15	38	117,961	157	131
Texas:							
North Central Texas	45	2	23	70	169,293	220	219
West Texas	47	0	2	49	222,323	209	169
Texas Panhandle	18	2	0	20	60,724	90	43
East Texas	9	2	3	14	62,716	60	115
Texas Gulf Coast	15	1	7	23	153,042	109	81
Southwest Texas	16	2	15	33	125,404	162	127
Total Texas	150	9	50	209	793,502	850	754
North Louisiana	6	0	2	8	23,898	78	56
Louisiana Gulf Coast	8	0	6	14	121,056	88	67
Total Louisiana	14	0	8	22	144,954	166	123
Arkansas	0	1	1	2	18,413	15	16
Mississippi and Southeast	0	0	0	0	0	19	14
Montana	2	0	1	3	8,843	19	25
Wyoming	1	0	1	2	6,019	8	17
Colorado	0	0	0	0	0	1	0
New Mexico	2	0	1	3	8,756	29	35
California	10	2	10	22	110,117	115	117
Total United States	348	45	134	527	1,744,899	2,683	2,350
Total previous week	314	51	115	480			
Week ended Feb. 1, 1941	359	45	100	504			

Steady Decline Seen in Many Oklahoma Prorated Fields

By W. V. HOWARD

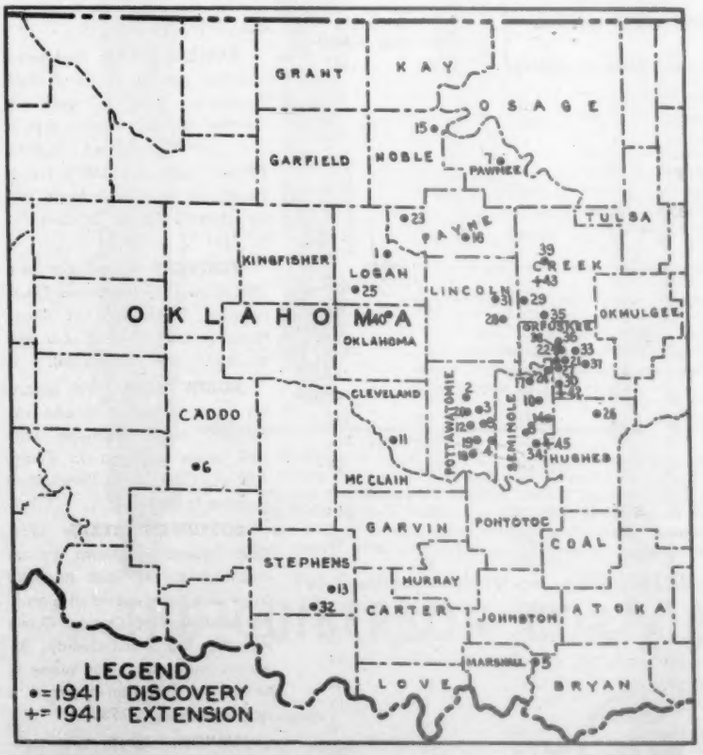
DURING 1941 Oklahoma produced 153,257,000 bbl. of oil and new reserves estimated at 74,650,000 bbl. were discovered, leaving a deficiency of 79,607,000 bbl. in known reservoirs. In 1940, with slightly less production, the deficiency was even larger, amounting to 104,277,000 bbl. In 1939, production was almost the same as in 1941, but the excess of production over discoveries amounted to 113,724,000 bbl. During the 3 years between January 1, 1939, and January 1, 1942, Oklahoma's reserves have declined from 1,401,630,000 bbl. to 1,104,022,000 bbl., a net loss of 297,608,000 bbl. Estimated in terms of years' supply, reserves have declined from 8.3 to 7.2 years. The percentage of the nation's reserves in Oklahoma has declined from 7.8 to 5.4.

The only bright feature of the bald statistics as presented above is that the excess of production over new reserves is lessening each year and 1941 showed a considerable improvement in this regard over 1940. Analysis of some of the details regarding the discoveries of the past 2 years presents even more encouragement for the hope that Oklahoma will reverse this decline.

Comparing production figures for November 1941 with those of November 1940, it can be seen that production for the state as a whole increased 27,499 bbl. a day but that in 13 counties each of which increased their production by more than 10 per cent, the total increase was 41,364 bbl. making a net decline for the balance of the state of 13,865 bbl. Seven of these counties, Bryant, Carter, Garvin, Kiowa, Marshall, Stephens and Tillman are in the southern part of the state and the developments which were largely responsible for the increased production took place at Cumberland, Robberson, West Hewitt, Frederick and Hobart. With the exception of the McLish zone at Cumberland and the discovery of Simpson oil at Velma, these pools received no noteworthy extensions in 1941. However, the widespread occurrence of oil-bearing Simpson, shallow production from the Pontotoc at Hobart, the extension of the Texas Pennsylvanian pays into Oklahoma at Frederick indicate that this area is likely to receive intensive development in the future.

Operators who have for years believed in the potentialities of the Wilcox in the Anadarko basin have had their faith justified by the discovery of Apache. This field is furnishing the incentive for considerable wildcatting and may easily be the first of a number of fields which will result in an upward turn in Oklahoma's discovery trend. Because of production from Apache, Caddo County's production turned sharply upward in 1941.

Along the southern end of the Nemaha Ridge which bounds the Anadarko basin on the east, there were no notable discoveries, although some fair-sized pools were opened on parallel belts in Logan, Payne and Noble counties. The production of Logan and Payne counties rose as a result of these discoveries but the history of other recent finds in this area is that they are relatively small and production falls off rapidly.



Numbers on map refer to the following pools.—*Wilcox and Simpson discoveries:* 1 Guthrie, 2 Tecumseh Lake, 3 West Hotulke, 4 East St. Louis, 5 Cumberland, 6 Apache, 7 East Pawnee, 8 North Little River, 9 West Maud, 10 West Bethel, 11 Noble, 12 East Tecumseh, 13 Velma, 14 Northeast Wewoka, 15 Otoe City, 17 Northeast Mahan, 18 Sylvian. *Viola, Hunton and Misener discoveries:* 18 North St. Louis, 19 Hotulke, 3 West Hotulke, 20 East Tecumseh, 21 West Okemah, 22 Castle, 23 East Orlando, 24 South Dill, 25 Navina, 26 East Wetumka, 27 South Castle, 28 West Peck. *Pennsylvania sand discoveries:* 29 East Stroud, 30 Rusk, 31 North Davenport, 32 West Loco, 33 North Okemah, 1 Guthrie, 34 West Fish, 35 West Arno, 36 Mason, 37 East Okemah, 38 North Castle, 39 Sinclair, 40 Harper. *Extensions:* 42 East Cromwell, 44 Depew, 45 Fish.

Seminole

In the Seminole area, there was the usual crop of discoveries and Hotulke, East Tecumseh, Tecumseh Lake and other pools reversed the downward trend of production in Pottawatomie County. These discoveries resulted mainly in pushing the edge of the Seminole district a little farther to the west but they have added little to the possibility of finding large untapped reservoirs in this sector. On the other side of the area, in Okfuskee County, a number of small rich pimples were found which boosted the county's production some 60 per cent during the year. There are many more of these small producing spots in the area, but the possibility of large long-lived pools is remote.

Due to secondary-recovery methods, the production of Rogers County rose sharply about 25 per cent, but this production is relatively unimportant.

TABLE 1—PRODUCTION FROM PRORATED POOLS

(Bbl. per well per day)

	November allow.	November prod.	May prod.
Oklahoma City-Wilcox	202	139	145
North Bethel	117	52	69
Billings-Wilcox	85	85	83
Frederick Deep	144	135	129
West Hewitt	116	91	
Jesse	76	52	46
Shawnee	68	19	22
Fitts	20	14	16
Adams	101	74	69
Apache*	206	216	
Avoca	90	59	179
Coyle-Wilcox	35	26	35
Coyle-Hunton	141	128	137
Cromwell, East	200	54	97
Cromwell, East-Hunton*	299	113	
Cromwell, East-Extension*	190	157	
Earlsboro, North	125	94	93
Guthrie*	148	140	162
Hobart	192	105	106
Hotulke, West-Viola*	372	380	
Hotulke, West-Wilcox*	239	174	
Little River, North*	197	115	136
Little River, North-Hunton*	200	88	
Maud, South	189	128	93
Prague	181	61	78
Romulus	245	85	193
Rusk*	194	167	
St. Louis, North*	282	102	544
Tecumseh, East*	128	117	
Tecumseh Lake*	300	183	288

Unclassified Prorated Pools

	Nov. prod.	May prod.
Burbank, South	36	36
Cement	41	24
Cumberland	180	202
Konawa, South	41	127
Naval Reserve	11	13
Ramsey	101	103
Ramsey-Hunton	148	
Shawnee, North	123	134
Oklahoma City, Lower Simpson	61	61
Oklahoma City upper Simpson	19	18
Miscellaneous	23	25

*1941 discoveries.

Table 1 shows the status of Oklahoma's prorated pools during November, compared with May. It will be observed that only 8 of the 45 1941 discoveries and extensions were still on proration at the end of the year. Of these, five were so far below their allowables that proration cannot be said to be affecting more than a small proportion of the properties in each pool.

Pools taken off proration during 1941, with their allowable and production at the time of removal are shown in Table 2. Many of these have been restored to the list of prorated pools as a results of the Corporation Commission's order last week. Many of these fields are dropping into the stripper category.

It thus appears that, disregarding additional restrictions due to proration, Oklahoma's production will continue a slow decline, interrupted locally by discoveries in the east central part of the state with, however, excellent chances for a revival centering around the developed areas in the southern and southwestern part of the state.

TABLE 2—POOLS TAKEN OFF PRORATION IN 1941

(Bbl. per well per day)

	Month	Allow.	Prod.
Keokuk Falls†	Oct.	43	30
Castle, South*	Oct.	261	51
Dill†	Oct.	101	28
Dill, South*	Oct.	300	114
Bethel, West*	Sept.	34	34
Okemah, East	Sept.	89	39
Stroud, East*	Sept.	200	65
Frederick, West	June	118	56
Crescent	Apr.	...	49
Gray	Apr.	...	46
Edmond	Mar.	104	43
Moore	Mar.	250	43
Allen†	Mar.	20	16
Fish†	Mar.	44	20
Grayson†	Mar.	60	25
Hazel†	Mar.	23	11
Konawa†	Mar.	13	11
East Little River†	Mar.	11	10
Maud†	Mar.	12	9
Olympic†	Mar.	8	6
Sacred Heart†	Mar.	132	23
Sasakwa†	Mar.	32	18
Sasakwa Townsite†	Mar.	66	36
Searight, North†	Mar.	65	52
Seminole, East†	Mar.	...	10
St. Louis†	Mar.	60	20
St. Louis, Wilcox†	Mar.	255	96
Earlsboro†	Jan.	...	33
Little River†	Jan.	...	25
Mission†	Jan.	...	20
Seminole†	Jan.	...	33
Searight†	Jan.	...	17

*1941 discoveries. †Proration restored, Jan. 1942.

Shallow Pool Opened in Ward County; Three Pools Extended

By TOM BARBER

MIDLAND, Tex.—A new shallow oil pool for Ward County was indicated this week at a wildcat 3 miles south of the Spencer pool. Early in the week, Stanolind 1 H. L. Byrd, Section 34, Block 34, H.&T.C. Survey, in the northwestern part of the county, recovered 180 ft. of mud on a 35-minute drill-stem test from 2,630-55 ft. Of this 180 ft., the top 90 ft. was gas cut and the bottom 90 ft. heavily cut with oil and gas.

In deepening, a core from 2,655-70 ft. recovered 2½ ft. of sand with a showing of oil and the rest red shale and dolomite. With tool open 1 hour, a drill-stem test was run at 2,629-70 ft., returning 97 ft. of mud, slightly cut with gas and heavily cut with oil. By the end of the week, operator had drilled to 2,795 ft. and cored from that depth to 2,807 ft., recovering 12 ft. of core, 7 ft. shale and dolomite, and 5 ft. hard, gray tight sand. At last report, operator was coring ahead below 2,815 ft.

Two Wildcats Testing

The interest of operators in Winkler County this week was centered on two wildcats which were testing. One of these was Weier Drilling Co. 1 Seth Campbell, 1 mile southeast of the Keystone-Colby area, which was drilling below 3,556 ft. and carrying 250 ft. of oil in hole. No. 1 Campbell first encountered a show of oil at 3,469-83 ft., with an increase at 3,483-95 ft. Location is in Section 21, Block B-3, P.S.L. Survey.

Loss of circulation delayed a scheduled drill-stem test at Winkler County's second important wildcat, Stanolind 1 Sealy. No. 1 Sealy, 1 mile north of the Magnolia-Sealy area, is bottomed at 3,185 ft. It had previously recovered sulfur water stained with oil on a test from 3,108-30 ft. A series of cores from 3,130-85 ft. returned shale, dolomite, and dry sand.

Extensions Reported for Three Pools

Extensions have been reported for three major pools in the southern West Texas district. The fields which were extended are the Abell Ordovician pool of Pecos County, the North Cowden pool of Ector County, and the Sand Hills Permian pool of Crane County.

Of these three, the most outstanding is Stanolind 1 C. R. Kistler, which extended the Abell Ordovician pool in Pecos County ⅝ mile to the south. In addition to extending the field, 1 Kistler rated a natural daily potential of 2,147.76 bbl. of 44.7-gravity oil, a new high for the area.

Operator had cemented 7-in. casing at 5,335 ft., total depth, plugged back to 5,327 ft., and perforated casing from 5,293-5,313 ft. Daily potential was based on a yield of 268 bbl. of oil the last 3 hours of a 6-hour test. Flow was through ½-in. tubing choke, with gas-oil ratio of 933:1. Location is in Section 5, Block 3, H.&T.C. Survey.

In Ector County, Stanolind announced the completion of 7 O. B. Holt, Jr., as a ¼-mile northeast extension to the North Cowden field. Oil production at 7 Holt followed a nitro shot in the lime from 4,495-4,815 ft., total depth. The extension flowed oil at a rate estimated at 1,003 bbl. daily. It is reported that operator now plans to move ¼ mile farther east for another test, which will be 8 Holt. Location for this test has not been staked.

The northeastern edge of the Sand Hills Permian field of western Crane County received an extension this week. The ½-mile north and east extension well is Gulf 35 Waddell, Section 20, Block B-26, P.S.L. Survey, which flowed 216 bbl. of 34.7-gravity oil in 6 hours, to rate a daily potential of 516.2 bbl. No. 35 Waddell flowed after being acidized with 5,000 gal. at total depth of 4,640 ft.

SOUTHERN WEST TEXAS COMPLETIONS

(24-hour rating based on last 3 hours of 6-hour gage)

Fields

Dune, Crane County: Wasomes 3 University, elev. 2,665 ft., 302 bbl., 540-qt. shot 3,210-3,340 ft., T.D. 3,381 ft.

Foster, Ector County: Broderick & Calvert 8 Bagley, elev. 2,948 ft., 10,539 bbl., 1,000 gal. acid 4,235-4,355 ft.

Cities Service 6-A Johnson, elev. 2,982 ft., 284 bbl., ¾-in. choke, 320-qt. shot 4,110-4,210 ft.

Lloyd Noble 1 W. F. Cowden, elev. 3,154 ft., 282 bbl., ¼-in. choke, 3,000 gal. acid 4,155-87 ft.

Jordan, Ector County: Sinclair 4 University, elev. 2,849 ft., 880 bbl., 2,000 gal. acid 3,615-45 ft.

Texas 9 McDonald, elev. 2,834 ft., 262 bbl., pumping, 1,270-qt. shot 3,360-3,695 ft.

Keystone (Colby sand), Winkler County: Texas 9 Campbell, elev. 2,888 ft., 228 bbl., 360-qt. shot 3,128-3,314 ft.

Keystone (lime), Winkler County: Richardson & Bass 2 Keystone-Jenkins, elev. 2,972 ft., 273 bbl., 1-in. choke, 280-qt. shot 3,340-3,452 ft., T.D. 3,452 ft.

Lehn, Pecos County: C-K Drilling 1 Iowa Royalty, elev. 2,516 ft., dry at 1,733 ft.

McElroy, Crane County: Gulf 264 McElroy, elev. 2,687 ft., 145 bbl., pumping, 748-qt. shot 2,915-3,079 ft., T.D. 3,089 ft.

McElroy, Upton County: Gulf 265 McElroy, elev. 2,766 ft., 425 bbl., 878-qt. shot 2,977-3,160 ft., T.D. 3,170 ft.

North Cowden, Ector County: Stanolind and Magnolia 7 Holt, elev. 3,079 ft., 1,003 bbl. oil and 68 bbl. water, pumping, 920-qt. shot 4,495-4,800 ft., T.D. 4,815 ft.

North Ward, Ward County: Gulf 166 Hutchins, elev. 2,673 ft., 1,501 bbl., 260-qt. shot 2,713-82 ft., top anhydrite 1,280 ft.

Sand Hills (Permian), Crane County: Magnolia 10 Lea, elev. 2,650 ft., 317 bbl., 45/64-in. choke, 11,000 gal. acid 4,478-4,605 ft.

Waddell, Crane County: Gulf 29 Henderson, elev. 2,781 ft., 1,776 bbl., 5,000 gal. acid 3,533-45 ft.

Northern West Texas Discovery Completing After Plug Back

Preparations were being made at the end of the week for the completion of Fullerton Oil Co. 1 Wilson, which will open a new oil-producing area of northwestern Andrews County. No. 1 Wilson first attracted attention several weeks ago when, in drilling, it encountered a show of oil and, on a 45-minute drill-stem test, flowed 37.6-gravity oil at a rate estimated at 30 to 40 bbl. per hour.

However, operator decided to fulfill contract obligations and continued to 8,005 ft., with no additional shows reported. Electrical survey was run at that depth and 1 Wilson was plugged back to 7,290 ft. A drill-stem test from 7,280-90 ft. recovered 120 ft. of fluid, black water, and mud. Pay zone, which is the Clear Fork lime of the lower Permian, was encountered from 6,810-7,290 ft. Operator has set 5½-in. casing at plugged-back total depth and reportedly plans to gun perforate casing from 7,210-80 ft. An acid treatment is scheduled to follow.

No. 1 Wilson is located in Section 15, Block A-32, P.S.L. Survey. It is about 8 miles northwest of Shafter Lake.

In the meantime, Fullerton is going ahead with plans for the immediate development of the Clear Fork lime in this section. Definite location has been staked for northwest and southwest offsets to the discovery and it is reported that operator has surveyed sites for four additional tests in the drilling block.

Fullerton has staked location for 2 Wilson in the SE SW Section 15, Block A-32, P.S.L. Survey, a southwest offset to the prospect. No. 3 Wilson is located in the NW SE Section 15, Block A-32, P.S.L. Survey, northwest offset. Both tests are scheduled to be under way by the Middle of February.

NORTHERN WEST TEXAS COMPLETIONS

(24-hour rating based on last 3 hours of 6-hour gage)

Fields

Cedar Lake, Gaines County: Stanolind 10 American Warehouse, elev. 3,032 ft., 778 bbl., 720-qt. shot 4,600-4,745 ft., T.D. 4,750 ft.

Emma, Andrews County: Forest Dev. Co. 1 University, elev. 3,194 ft., dry at 4,448 ft., top anyhdrite 1,840 ft., top Yates 2,950 ft., top lime 3,995 ft., top San Andres 4,412 ft.

Iatan-East Howard, Howard County: Fleming Oil Co. 1-B Denman, elev. 2,236 ft., 215 bbl., pumping, 690-qt. shot 2,805-2,867 ft.

H. A. Kinney 1 Denman, elev. 2,231 ft., 154 bbl. oil and 7 bbl. water, pumping, 400-qt. shot 2,790-2,880 ft., T.D. 2,894 ft., old well drilled deeper, old T.D. 2,865 ft.

Seminole, Gaines County: Humble 7-B Blakemore, elev. 3,425 ft., 600 bbl., ½-in. choke, pay 5,130-5,322 ft.

Stanolind 2-B Riley, elev. 3,033 ft., 492 bbl., 830-qt. shot 4,595-4,750 ft., T.D. 4,755 ft.

Slaughter, Cochran County: Anderson-Prichard 12 Neal, elev. 3,678 ft., 756 bbl., 14,000 gal. acid 4,907-51 ft.

Beig Oil Co. 1 D. S. Wright, elev. 3,672 ft., 450 bbl. oil and 5 per cent water, 15,000 gal. acid 4,938-83 ft., top anhydrite 2,230 ft., top lime 4,040 ft.

E. E. Fogelson 3 Duggan, elev. 3,695 ft., 880 bbl., 11,500 gal. acid 5,020-66 ft.

Honolulu 24-4 Igoe & Smith, elev. 3,661 ft., 1,131 bbl., 2½-in. casing outlet, 10,000 gal. acid 4,925-5,020 ft.

Honolulu 29-8 Igoe & Smith, elev. 3,650 ft., 1,004 bbl., 2½-in. casing outlet, 10,000 gal. acid 4,935-5,030 ft.

Magnolia 7-A Mallett, elev. 3,660 ft., 1,024 bbl., 3-in. casing outlet, 10,500 gal. acid 4,965-5,043 ft.

Magnolia 19-J Mallett, elev. 3,640 ft., 1,497 bbl., 3-in. casing outlet, 10,500 gal. acid 4,970-5,040 ft.

Slaughter, Hockley County: Honolulu 23-B Mallett, elev. 3,596 ft., 1,586 bbl., 2½-in. casing outlet, 10,000 gal. acid 4,955-5,030 ft.

Magnolia 7-C Mallett, elev. 3,637 ft., 1,409 bbl., 3-in. casing outlet, 10,000 gal. acid 5,000-52 ft.

Magnolia 1 Owen, elev. 3,569 ft., 1,885 bbl., 3-in. casing outlet, 10,500 gal. acid 4,955-5,040 ft.

Milhoan Production Co. 4 Fannin-Slaughter, elev. 3,587 ft., 809 bbl., 12,000 gal. acid 4,920-4,559 ft.

W. J. Richardson 3 Peck, elev. 3,561 ft., 226 bbl., 9,500 gal. acid 4,890-4,943 ft., T.D. 4,945 ft.

Texas 16-B Mallett, elev. 3,598 ft., 1,744 bbl., 12,500 gal. acid 4,955-5,037 ft.

Texas 22-E Mallett, elev. 3,596 ft., 1,156 bbl., 12,500 gal. acid 4,960-5,028 ft.

Texas 70 Slaughter, elev. 3,527 ft., 419 bbl. ,12,500 gal. acid 4,970-97 ft.

Texas 72 Slaughter, elev. 3,518 ft., 1,598 bbl., 12,500 gal. acid 4,902-85 ft.

Texas 80 Slaughter, elev. 3,550 ft., 2,092 bbl., 13,000 gal. acid 4,925-5,020 ft.

Texas 81 Slaughter, elev. 3,555 ft., 1,562 bbl., 13,000 gal. acid 4,915-5,025 ft.

Texas 85 Slaughter, elev. 3,571 ft., 1,074 bbl., 14,000 gal. acid 4,970-5,020 ft.

Texas 86 Slaughter, elev. 3,580 ft., 921 bbl., 15,000 gal. acid 4,950-5,023 ft.

Texas 88 Slaughter, elev. 3,559 ft., 809 bbl., 13,000 gal. acid 4,915-5,014 ft.

Texas 89 Slaughter, elev. 3,522 ft., 1,800 bbl., 12,500 gal. acid 4,922-95 ft.

Texas 90 Slaughter, elev. 3,540 ft., 2,277 bbl., 12,000 gal. acid 4,925-5,015 ft.

Texas 98 Slaughter, elev. 3,552 ft., 1,468 bbl., 12,000 gal. acid 4,950-5,025 ft.

Wasson, Yoakum County: American Liberty 9 Moore, elev. 3,633 ft., 950 bbl., 10,500 gal. acid 5,030-5,183 ft.

Arrow Drlg. Co. 1 Security Natl. Bank, elev. 3,594 ft., 124 bbl. oil and 33 per cent water, pumping, 8,000 gal. acid 5,246-70 ft.

Drilling & Exploration Co. 7-A Randall, elev. 3,670 ft., 541 bbl., ⅞-in. choke, 9,000 gal. acid 4,880-5,120 ft.

Humble 17 Randall, elev. 3,645 ft., 504 bbl., ⅝-in. choke, 6,000 gal. acid 4,990-5,013 ft., T.D. 5,018 ft.

Trinity Drilling Co. 2 Shanks, elev. 3,618 ft., 822 bbl., 107/64-in. choke, 12,000 gal. acid 5,205-65 ft.

TEXAS PANHANDLE COMPLETIONS

Carson County: Gulf 14 Block, 178 bbl., pumping.

Skelly 145 Schafer, 255 bbl., pumping.

Gray County: Nabob Oil Co. 4-B J. S. Morse, 194 bbl., pumping.

Danciger Oil & Ref. Co. 12-A Morse, 145 bbl., pumping.

Texas 37 G. H. Saunders, 106 bbl., pumping.

Phillips 6 E. Swanson, 271 bbl., pumping.

Magnolia 9-B G. H. Saunders, 302 bbl., pumping.

Texas 28 J. E. Williams, 253 bbl., pumping.

Skelly 8 H. B. Lovett, 204 bbl., pumping.

A. Crenshaw 7-C Benton, 102 bbl., pumping.

(Continued on Page 72)

Ventura Avenue Well Is Still In Pliocene at Record Depth

By L. P. STOCKMAN

LOS ANGELES, Calif.—Tide Water Associated Oil Co. set a new deep drilling record for the Coastal district early last week by drilling 18 McGonigle in the Ventura Avenue field to a depth of 11,350 ft. Formation in the bottom of the hole was oil sand and shale but a good sand body was cored above this depth and the outlook for production was exceptionally bright. A string of 7⅝-in. casing was cemented at 9,720 ft.

This is by far the deepest well drilled in the Ventura Avenue field to date and it is interesting to note that formations encountered at this depth were Pliocene. The Ventura Avenue field has enormous thicknesses of Pliocene and Miocene rocks and it is questionable whether the bit can ever drill entirely through the Miocene. Approximately 15,000 ft. of Pliocene is believed to be present in the Ventura Avenue field and actual drilling will only determine if this estimate is correct or too conservative. The thickness of Pliocene may vary one way or the other and may exceed 20,000 ft., in which event it will be a number of years before operators exhaust potential possibilities.

There is no doubt that some possibly productive measures in the lower Miocene will be out of reach of the drill in this field unless some radical changes are made in the technique of drilling. The Ventura Avenue field has produced a total of 238,840,279 bbl. of crude oil between date of discovery and December 31, 1941. Another 1,000,000 bbl. will be produced during January. In addition to this large volume of crude oil the field has produced considerable quantities of natural gasoline and natural gas.

Newhall-Potrero Extension

South of the Newhall-Potrero field in the Newhall-Castaic region, C. G. Willis has cemented 7-in. casing in 1 Ferguson in 11-4n-17w at 6,857 ft. This well, which has cored some good-looking oil sand, is believed to have found the first or upper Modelo zone of Miocene age which is productive in the Newhall-Potrero field. It is the present intention to drill ahead for another few hundred feet before testing out present showings. This is an important well in the Newhall-Castaic region because if it results in production it will mean either a new field or an extension of the Newhall-Potrero field. Either development will be of primary importance.

COASTAL DISTRICT COMPLETIONS

Los Alamos Wildcat district, Santa Barbara County: Royalty Service Corp. 1 Careaga, 8-8n-33w, abandoned as unproductive commercially, T.D. 5,578 ft., Miocene 4,528 ft., bottomed in fractured shale and chert showing oil and little gas, formation test 5,278-5,578 ft. open 70 minutes, recovered gas in 50 minutes, 8 stands mud and heavy black tarry oil with considerable water.

Newhall, Los Angeles County: Lee, W. Y., 1 Irene, 21-4n-16w, abandoned without any showings of oil or gas logged, T.D. 260 ft.; this hole did not drill deep enough to get out of surface rocks.

Santa Maria Valley, Santa Barbara County: Signal O. & G. Co. 4 Romalho, 27-10n-34w, pumped 525 bbl., 14.6 gravity, 5 per cent cut, T.D. 4,928 ft., perf. 4,475-4,928 ft., completed in Monterey.

Union 3 Fleisher, 31-10n-33w, pumped 310 bbl., 14.1 gravity, 40 per cent cut, T.D. 4,710 ft., perf. 4,195-4,709 ft., completed in Monterey.

Sespe, Ventura County: Chob Oil Co. 1 Phillips, 24-4n-20w, abandoned as unproductive, T.D. 105 ft., failed to find any shallow production, mechanical failure contributed to abandonment.

Sulfur Mountain, Ventura County: Madison Oil Co. 1 West, 24-4n-22w, abandoned as unproductive to depth reached, T.D. 2,266 ft., no important oil or gas showings logged.

Ventura Avenue, Ventura County: General Pet. Corp. 21 Barnard, 21-3n-23w, flowed 1,530 bbl., 30.3 gravity, 0.3 per cent cut, 1,304,000 cu. ft. gas, 96/64-in. bean, tubing pressure 150 lb., T.D. 9,080 ft., 250-mesh perf. 8,389-9,077 ft., completed in 57 zone of Pliocene age.

Three of Seven New Operations Are Wildcats

For the first time this year the weekly report of the Division of Oil and Gas, Department of Natural Resources, shows the effect of the provisions contained in recent orders from Washington as the division only received notices of intention to drill seven wells in California. Obviously, the 40-acre restriction has limited drilling operations, as might be expected. Notices were received this week for one new well at Coyote, Huntington Beach, Rio Vista and Jacalitos and three wildcats. The three wildcats are in Kern, Fresno and Santa Barbara counties.

Tupman Outpost Makes Flow

Shell Oil Co. has landed 374 ft. of 5½-in. liner in 88-19-B Kern County land in the north end of the Tupman field of Kern County and the crew is at present swabbing for production. This outpost was carried down to 10,542 ft. and then plugged back to 9,770 ft., from which depth the company is attempting to develop commercial production. Shell's well is located quite close to Standard's 21-1 Kern County land which was completed about 2 years ago and which appears to indicate Standard has found a new productive area northwest of Richfield's holdings in the Tupman field. The result of Shell's project will be watched with interest because it may reveal something about subsurface conditions in this district. Both wells are located in 19-30s-25e. At present there are four strings of tools in operation at Tupman and two strings operating in the Coles Levee field.

SAN JOAQUIN VALLEY COMPLETIONS

Edison, Kern County: Frazier, Finley et al 1 Portals, 4-30s-29e, abandoned in gray sand, T.D. 3,888 ft., no showings worth testing were found.

Elk Hills, Kern County: Standard 24-19-R Reserve, 19-30s-23e, flowed 10,000,000 cu. ft. gas, 28/64-in. bean, pressures 1,000/1,000 lb., T.D. 6,469 ft., P.B. 2,830 ft., completed in probable equivalent of Mya zone, *located about 5 miles from nearest production.*

Midway-Sunset, Kern County: North American Oil Consd. 1-28 W.P., 28-32s-23e, abandoned when no oil could be produced, T.D. 10,410 ft., 13⅜-in. surface pipe cemented 341 ft., 858 ft. of 6⅝-in. liner with 140 mesh perf. landed 9,343 ft. and cemented through perf. 8,851 ft., full string 5½-in. casing cemented inside 6⅝-in. liner at 8,485 ft., 2⅜-in. tubing hung 9,033 ft., packer 9,400 ft., swabbed heavy mud with scum of oil, pulled tubing and reran to 9,150 ft., swabbed mud, water and trace of oil.

Raisin City, Fresno County: Barnsdall 1 Ripperdan, 24-15s-17e, abandoned as unproductive commercially, T.D. 5,161 ft., 11¾-in. cemented 725 ft., 7-in. cemented 5,049 ft., gas sand 5,003 ft., Shell zone 5,019 ft., Seaboard oil sand 5,126 ft., lower ash bed 5,010 ft., P.B. 5,146 ft., formation test 5,126-40 ft., 13 minutes gas blow, 360 ft. gas-cut mud, 1,890 ft. thin mud, 720 ft. oil, 90 ft. oil and water, 900 ft. salt water, P.B. 5,057 ft., formation test 5,049-57 ft., 908 ft. oily gassy mud, 2,880 ft. clean oil, 90 ft. sand, P.B. 5,034 ft., perf. 5,023-33 ft. with 20 holes, swabbed salt water.

Rio Vista gas field, Sacramento County: Texas Co. 2 Welch, 6-3n-3e, flowed 11,500,000 cu. ft. gas, 48/64-in. bean, shut-in pressures 2,000/2,000 lb., T.D. 4,305 ft., perf. 3,879-4,302 ft. completed in Emigh zone of Cretaceous age.

Round Mountain wildcat district, Kern County: F. H. R. Oil Co. 1 Round Mountain, 2-28s-28e, abandoned in sand, T.D. 1,906 ft., Vedder zone of Miocene age 1,851-70 ft. consisted of barren gray sand.

Los Angeles Basin Wells Point to Increased Work

The Whittier and Turnbull Canyon districts are showing more activity as time goes on and present indications point to an expansion of work providing wells now under way lend enough encouragement. In the Whittier district, Axis Petroleum Co. is drilling an interesting well on the Tandberg property in 13-2s-11w. This well recently completed a series of formation tests that tend to indicate the possibility that commercial production may be developed.

A formation test at 3,323-3,474 ft. and open for 20 minutes showed a recovery of 130 ft. of oily mud and a blow of gas estimated to be at the rate of 2,500,000 cu. ft. daily. Gas reached the surface in 30 seconds and the flow was through a 24/64-in. bean. On a 1-hour formation test at 3,392-3,474 ft. the well flowed at the rate of 150,000 cu. ft. for 15 minutes and by heads for the remainder of the test. The recovery in the tester consisted of one stand of mud and six stands of oily mud with oil increasing toward bottom. This well has been cored ahead to 3,500 ft. and a formation test is now under way.

Turnbull Canyon Whipstock

In Turnbull Canyon, Continental Oil Co. is having good results with its redrilling job on 2 Turnbull Canyon which is being whipstocked north in order to get out of a fault zone and should hit the oil sand soon if it is to result in production. The fault encountered by this well apparently cuts the productive acreage in half.

LOS ANGELES BASIN COMPLETIONS

Coyote West, Orange County: Standard 128 Murphy-Coyote, 19-3s-10w, flowed 677 bbl., 30.1 gravity, 0.5 per cent cut, 1,200,000 cu. ft. gas, 64/64-in. bean, pressures 150/720 lb., T.D. 6,010 ft., perf. 5,363-6,009 ft., completed in 99 zone of probable Pliocene age.

Dominguez, Los Angeles County: Union 73 Callender, 32-3s-13w, flowed 611 bbl., 30.7-gravity, 3 per cent cut, 3,554,000 cu. ft. gas, 128/64-in. bean, pressures 150/500 lb., T.D. 7,485 ft., perf. 6,995-7,458 ft., redrilled and deepened from 7,460 ft. and finished in eighth Callender zone.

Huntington Beach, Orange County: Associated 10 Miley-Keck, 34-5s-11w, pumped 10 bbl., 21.8 gravity, 50 per cent cut, T.D. 4,949 ft., gun perf. 4,316-52 ft., 4,430-60 ft., 4,546-60 ft., whipstocked from 2,410 ft. and redrilled to 4,563 ft.

Southwest Exploration Co. 45 State, 3-6s-11w, pumped 286 bbl., 23.5-gravity, 0.5 per cent cut, T.D. 5,878 ft., perf. 4,980-5,878 ft., completed in Huntington tidelands located beneath Pacific Ocean by directional drilling.

Inglewood, Los Angeles County: Associated 71 Vickers, 7-2s-14w, flowed 1,562 bbl., 27.5-gravity, 0.5 per cent cut, 2,137,000 cu. ft. gas, 32/64-in. bean, pressures 900/1,100 lb., T.D. 8,355 ft., perf. 8,038-8,350 ft., completed in Sentous zone of Miocene age.

Standard 2-14 Vickers, 7-2s-14w, flowed 1,525 bbl., 29.4 gravity, 0.3 per cent cut, 1,577,000 cu. ft. gas, 28/64 to 34/64-in. bean, pressures 950/1,100 lb., T.D. 8,353 ft., perf. 8,035-8,353 ft., completed in Sentous zone of Miocene age, Nodular shale 7,890-7,905 ft.

Long Beach, Los Angeles County: Utah Oil & Drlg. Co. 1 Stevens, 19-4s-12w, abandoned as unproductive commercially, T.D. 3,601 ft., logged usual upper showings of oil and gas but no zone thick enough to produce commercially was encountered.

Rosecrans, Los Angeles County: Rankin & Williams 1 Rosecrans, 7-3s-13w, abandoned as unproductive commercially, T.D. 9,483 ft., all zones down through O'Dea zone of Miocene age contained very small amount of sand and offered no production possibilities.

Torrance, Los Angeles County: Wood-Callahan Oil Co. 2 Dominguez Estates, 5-4s-14w, pumped 60 bbl., 14.8 gravity, 2 per cent cut, T.D. 3,710 ft., gravel-packed perf. 3,293-3,710 ft., completed in equivalent of Ranger zone.

Wilmington, Los Angeles County: General Pet. Corp. 41 Ford, 4-5s-13w, flowed 1,192 bbl., 30.2 gravity, 0.5 per cent cut, 647,000 cu. ft. gas, 50/64-in. bean, pressures 125/300 lb., T.D. 5,400 ft., 100-mesh perf. 4,705-5,353 ft., completed in lower Terminal zone of Miocene age.

Union Pacific R. R. 216 fee, 3-5s-13w, flowed 534 bbl., 29.6 gravity, 0.1 per cent cut, 100,000 cu. ft. gas, 32/64-in. bean, pressures 420/580 lb., T.D. 4,004 ft., P.B. 3,900 ft., perf. 3,495-3,585 ft., 3,605-45 ft., 3,692-3,790 ft., 3,849-92 ft., completed in lower Terminal zone of Miocene age.

PLANNING A WILDCAT?
Drilling and Well Completion Material:
(Wildcat or Exploratory Wells)
Basis of Use
Exception No. 3 to Amended Conservation Order M-68 provides for material to be used by an Operator exclusively for operations in an involved in the search for, discovery of a previously unknown Pool by the drilling or completion of any Exploratory Well.
An Exploratory well is defined as any well located not less than two miles from any well capable of producing petroleum.
If material is purchased on ratings authorized by Preference Rating Order P-98, its use must conform to Restrictions on Use of Materials contained in the text at the beginning of this compilation.
Preference Rating—
(A-2)
How to Obtain Material

PRESSURES EXCEED 3000 LBS. BELOW 7000'—SWITCH TO CAMERON 6000 LB. TEST CONTROL UNITS

A clipping from The Oil Weekly, January 19, 1942.

Now, as never before, operators in wildcat areas need the industry's most dependable protection against blowouts . . . to conserve oil, gas and reservoir pressure and to prevent the destruction of vital drilling machinery. Cameron Pressure-Operated Drilling Control Units of adequate capacity . . . 3000 Lb. Test for depths to 7000'. 6000 Lb. Test for greater depths . . . provide that protection.

THEY CLOSE INSTANTLY—Pressure supplied by boiler feed pump, slush pump, or both, remotely controlled from the derrick floor, closes rams and ram gate instantly. (Manually operated units also available, if desired.)

THEY SEAL UNFAILINGLY—Patented self-feeding packing elements in blowout preventer rams effect a positive seal the instant closing pressure is applied. Ample reserve of resilient packing material permits rotating and moving pipe in hole safely under pressure. The self-feeding packing element in the valve ram gate automatically feeds out and effects a pressure-tight seal even though the seat should be roughened, corroded or sand cut.

PIPE IS CENTERED AUTOMATICALLY—Heavy angular wing guides made integral with the blowout preventer rams automatically center pipe in the hole and totally eliminate danger of rams being held open.

WELL CUTTINGS CANNOT PREVENT CLOSURE—Cylindrical rams eliminate any shelves or shoulders on which cuttings may accumulate.

These are but a few of the many features of Cameron Pressure Operated Drilling Control Units which are presented in your Composite Catalog. Or, descriptive literature will be gladly sent on request.

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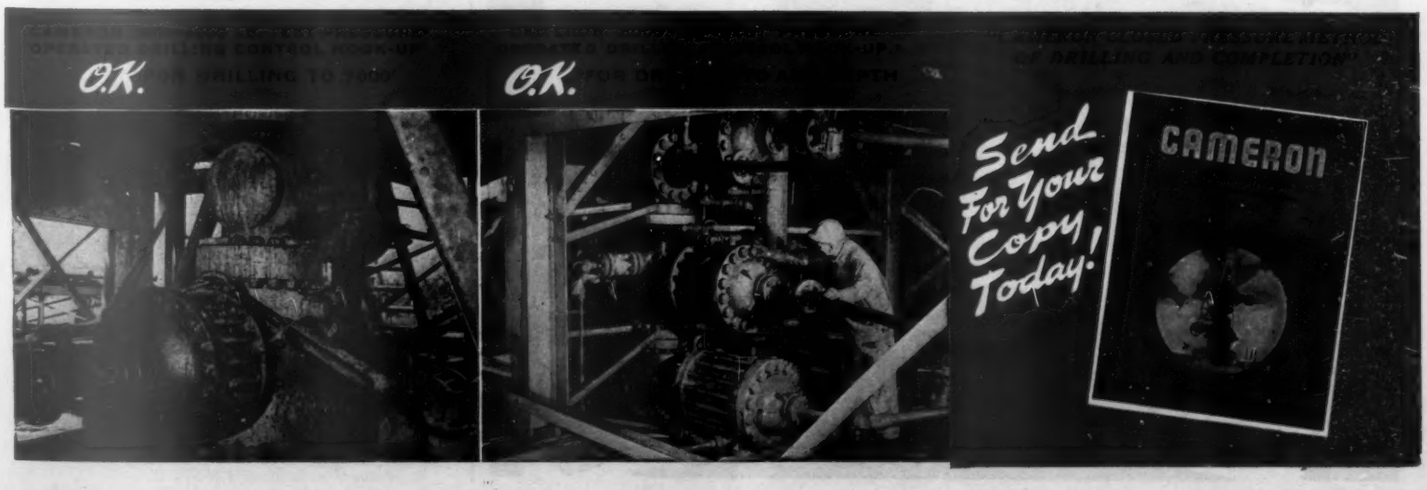
Oklahoma: Paul Edkin, Tulsa
Rocky Mountain: Mountain Sales & Service, Casper, Wyo.



INDIANA, OHIO, KENTUCKY

Pool Opener Is Showing Southwest of Hazleton

EVANSVILLE, Ind.—The success of Indiana oil operators during the latter part of 1941 appeared to be holding last week as a wildcat 2½ miles southwest of the Hazleton field of Gibson County was showing for a pool opener. The test. Walter Miller 1 Ewing, Don. 78-1n-10w, drilled 15 ft. of McClosky saturation from 1,804-20 ft., and oil rose 600 ft. in the hole. The test is now shut down awaiting acid treatment.

Only two new wildcat locations were reported in Indiana during the past week. These are Walter Miller 1 Lewis, SW SW NW 26-2n-11w, about 1⅛ miles east and some south of St. Francesville, and Sinclair-Wyoming 1 D. G. Nash, SW SW NE 32-7s-14w, 2⅛ miles south and 1 mile east of production on the Illinois side of the Wabash River.

Another Good Well Completed In Ohio's Clayton Pool

NEWARK, Ohio.—In the Clayton Township oil pool in Perry County, another fair well was completed by the Pure Oil Co. as a test on the J. A. Pargeon (Aaron Johnson) farm, NW Section 7, which produced 281 bbl. the first day from the Clinton sand at 3,249 ft., with about 50,000 cu. ft. of gas.

OHIO COMPLETIONS

Coshocton County, Perry Township: Preston Oil 7 E. R. Van Winkle, third quarter, 13 bbl., shot, Clinton, T.D. 3,100 ft.

Pike Township: Fred W. Abbott et al 1 Gilbert Ashcraft, NE Sec. 22, dry, through Clinton sand, T.D. 3,190 ft.

Guernsey County, Adams Township: James Ronshausen 1 W. A. Kelley, Sec. 21, 35,000 cu. ft. gas, shot, Berea, T.D. 1,161 ft.

Harrison County, Washington Township: Ohio Oil Co. 1 Lillian Bursner, Sec. 28, dry, Berea 1,086-1,163 ft., T.D. 1,214 ft.

Knox County, Butler Township: East Ohio Gas 2 Harrold Snyder, Sec. 7, 60,000 cu. ft. gas, Berea, T.D. 704 ft.

Licking County, Eden Township: Natural Drlg. Co. 1 Charles Van Winkle, Sec. 17, 75,000 cu. ft. gas, shot, Clinton, T.D. 2,758 ft.

Bowling Green Township: Allen Willey 2 Caldwell & Currie, Sec. 2, 40 bbl., shot, Clinton 2,981-3,044 ft., T.D. 3,060 ft.

Madison Township: Ohio Fuel 1 H. M. Boylan, Lot 9, second quarter, 300,000 cu. ft. gas, Clinton 2,516-49 ft., T.D. 2,555 ft.

Mary Ann Township: George Lacknette et al 1 Hazel Shepard, dry, Clinton 2,721-49 ft., T.D. 2,776 ft.

Medina County, Chatham Township: R. C. Holmes et al O16 A. B. and Mary Hostettler, Tract 14, Lot 1, 5 bbl., Berea, T.D. 542 ft.

R. C. Holmes et al O18 A. B. and Mary Hostettler, 5 bbl., Berea, T.D. 530 ft.

R. C. Holmes et al W1 Gilbert Oberton, Lot 1, Tract 13, input, Berea, T.D. 520 ft.

R. C. Holmes et al W2 Gilbert Oberton, input, Berea, T.D. 516 ft.

Hinckley Township: Ohio Fuel 1 Emma Karasek, Lot 92, dry, Clinton, T.D. 3,378 ft.

East Ohio Gas 1 Cleveland Trust Co., Lot 54, 4,700,000 cu. ft. gas, shot, Clinton, T.D. 3,217 ft.

Meigs County, Rutland Township: Mathews Oil Co. 1 Electa Souders, Sec. 16, 600,000 cu. ft. gas, Maxon, T.D. 822 ft.

H. M. Nelson 1 Lillie Gilchrist, Sec. 28, 500,000 cu. ft. gas, stray, T.D. 639 ft.

Scipio Township: C. W. Nuzum 2 A. M. Gilkey, Sec. 13, first Cow Run, T.D. 232 ft.

C. W. Nuzum 3 A. M. Gilkey, Sec. 13, 1 bbl., first Cow Run, T.D. 230 ft.

Monroe County, Washington Township: C. E. English 7 Richard Scott, Sec. 24, 3 bbl., shot, Injun, T.D. 1,536 ft.

Morgan County, Bloom Township: Ohio Fuel 1 C. E. Mercer, Sec. 24, 200,000 cu. ft. gas, shot, Clinton 4,139-69 ft., T.D. 4,239 ft.

Marion Township: Crowley et al 1 W. H. Smith, Lot 25, dry, T.D. 945 ft.

Bern Oil & Gas 1 E. C. Russell, Sec. 13, dry, Maxon (water), T.D. 1,109 ft.

York Township: Litton & Radford 1 Hiram Walker, Sec. 21, dry, Clinton 4,174-4,222 ft., T.D. 4,257 ft.

Muskingum County, Harrison Township: Pure Oil 2 Clarence Ribble, Sec. 14, 740,000 cu. ft. gas, Clinton, T.D. 4,287 ft.

Mehowa Oil & Gas 2 M. L. Offenbacher, Sec. 14, 300,000 cu. ft. gas, shot, Clinton 4,237-60 ft.

Perry County, Clayton Township: Pure Oil 1 James Pargeon, Sec. 7, 281 bbl., shot, Clinton, T.D. 3,254 ft.

Stark County, Nimishillen Township: Ohio Fuel 1 F. G. Hahn, Sec. 5, dry, Clinton 4,838-85 ft.

Summit County, Boston Township: William Dempsey 1 Schumaker-Schnabel, Lot 1, dry, Clinton, T.D. 3,243 ft.

Washington County, Barlow Township: Hope Const. & Ref. Co. 3 J. H. Greenless, Sec. 5, 120,000 cu. ft. gas, Injun, T.D. 1,520 ft.

Ludlow Township: Russell Hanlon et al 1 Emery Allen, SW Sec. 9, small showing oil only, Berea, T.D. 2,149 ft.

Wayne County, Plain Township: Clark et al 1 A. F. Engle, Sec. 20, 30,000 cu. ft. gas, plugged, Clinton, T.D. 3,050 ft.

Eastern Kentucky Has Two Completions Reported

ASHLAND, Ky.—Two completions were reported here as eastern Kentucky operators await clarification of M-68 before proceeding with development work.

Newson Interest 1 R. B. Farin at Isonville in Elliott County was estimated at 5 bbl. a day. Everett Evans completed a well on the Howes Land Co. tract in Johnson County for 90,000 cu. ft. of gas.

WESTERN KENTUCKY COMPLETIONS

Butler County, Huntsville district: B. Phillips et al 3 Gardner, 10 bbl., shot, Jones sand, 419-30 ft., T.D. 439 ft.

Daviess County, Pleasant Ridge district: Snyder 6 Jackson, dry, T.D. 1,240 ft.

Hancock County, Pellville district: Leeper 9 Rowland, 10 bbl., shot, Jett sand, 480-90 ft., T.D. 498 ft.

Henderson County, Reed district: Farmer 1 Chase, 360 bbl., acid. 1,000 gal., McClosky 1,973-78 ft.

McCracken County, Mason Hill district: Dixie Dev. Co. 1 Mrs. D. McFadden, temporarily abandoned, T.D. 635 ft.

Union County: Morganfield district: Ohio 3 Briscoe, dry, T.D. 1,387 ft.

Basin 1 Riley-Love, 25 bbl., shot, stray sand, 943-67 ft., Pennsylvania sand, 1,357-72 ft.

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OKLAHOMA FIELD REPORT

Pools Are Opened in Garfield And Pottawatomie Counties

By ROBERT INGRAM

WILDCATS were showing to open two new fields in Oklahoma, each having made a flow on tests. South of Tecumseh in Pottawatomie County, Atlantic Refining and Cities Service Oil 1 Ford Cobb, SW NE NE 4-8n-3e, made a flow, then showed 1,650 ft. of oil on a drill-stem test of the Hunton lime at 4,771-85 ft., total depth. There was no water. The Hunton was reported topped at 4,758 ft., being 89 ft. higher than nearest wells.

North of the North Lucien field in Garfield County, Phillips Petroleum 1 Luckenbaugh, NW NE NW 36-21n-3w, drilled plug and flowed 46 bbl. of oil into tanks in 15 minutes, then was shut in. Since there was no separator on the lease, the flow was turned directly into the tanks. The Luckenbaugh was drilled to 5,569 ft. in the Wilcox sand. Plugged back to 5,478 ft. it showed some gas on drill-stem test and casing was cemented at 5,442 ft.

Panhandle Test to Core

The Gulf Corp. 1 Cox, SE SE 35-2n-8ecm, wildcat in southeastern Cimarron County, has entered the final and decisive stages of its progress. It was to begin coring in a dolomitic formation at 5,950 ft. which was believed to be the Simpson series. At the moment the Gulf's wildcat looms as the most closely watched test in the Mid-Continent field.

OKLAHOMA COMPLETIONS

Wildcats

Caddo County: Amerada 1 Sprague, SE NW 11-8-12w, dry, Pontotoc 4,295 ft., Cisco 5,540 ft., Pawhuska 5,780 ft., T.D. 10,231 ft.

Comanche County: Denver Producing & Refining 1 Hayes, NE NE SW 14-14-14w, dry, Viola 1,365 ft., Simpson 2,100 ft., T.D. 4,647 ft.

Lincoln County: Haddock 1 Hert, SW NE SE 22-17-3, flowed 35 bbl. oil and 2,500,000 cu. ft. gas, Wilcox 4,538 ft., T.D. 4,555 ft., *discovery.*

Okfuskee County: Olson Drilling 1-A Armstrong, NE NE NE 3-11-10, dry, Cromwell 3,268 ft., T.D. 3,355 ft.

Fields

Ada, Pontotoc County: Hughes-Thomas 1 Smythe, NE NW SE 30-4-6, dry, Cromwell 1,524 ft., T.D. 1,579 ft.

Burbank, Osage County: Phillips 17 Osage, SE NE NE 22-27-5, pumped 19 bbl. oil, Burbank 2,979 ft., T.D. 3,034 ft.

South Burbank, Osage County: Magnolia 8 De Noya-B, NE SW NW 14-26-6, pumped 122 bbl., Burbank 2,843-2,932 ft., T.D. 2,937 ft.

Coyle, Payne County: Helmerich & Payne 4 Collins, W½ SW NW 13-17-1, flowed 313 bbl. oil, cut 25 per cent, Hunton 4,605-33 ft., T.D. 4,885 ft.

East Cromwell, Okfuskee County: Chapman & McFarland 2 Deatherage, NE NE SE 1-10-8, pumbped 40 bbl. oil and 5 bbl. water, Booch 3,009-15 ft., T.D. 3,020 ft.

Titus 8 Sands, NW NE SE 26-11-8, pumped 30 bbl. oil and 20 bbl. water, Cromwell 3,488-92 ft., T.D. 3,494 ft.

West Francis, Pontotoc County: Tibbals et al 2 Boughton, NW SE NE 36-5-6, old well, old T.D. 1,640 ft., pay 1,725 ft., T.D. 1,726 ft., flowed 8 bbl.

West Hewitt, Carter County: Walter Neustadt 7 Choate-160, SE NE SE 18-4s-2w, flowed 30 bbl., pay 2,100 ft., T.D. 2,270 ft.

Gibson & Jennings 4 Lamb, NW NE NE 29-4s-2w, old well, old T.D. 2,266 ft., T.D. 2,295 ft., pumped 30 bbl.

West Holdenville, Hughes County: Tri Oil 1 Walker, NE SE NW 12-7-8, pumped 20 bbl., Calvin 1,061 ft., T.D. 1,075 ft.

Hotulke, Pottawatomie County: Mid-States 1 Nadeau, NW NE 25-9-4, flowed 227 bbl. pinched, Hunton 4,168-18 ft., T.D. 4,476 ft.

West Loco, Stephens County: Jackson 1 Dilley, SE SE 6-3s-5w, old well, old T.D. 1,838 ft., P.B. 1,150 ft., pumped 7 bbl. oil and 1 bbl. water.

Lovell, Logan County: Davon Oil 1 Gregg, NW NW SE 16-18-4w, old well, old T.D. 4,020 ft., gaged 50,000,000 cu. ft. gas 750 lb. R.P., P.B. 3,400 ft.

Northeast Mehan, Payne County: T. N. Berry 2 fee, SW NE SW 13-18-3, flowed 420 bbl., second Wilcox 4,156 ft., T.D. 4,157 ft.

Oklahoma City, Oklahoma County: H. V. Clark 1 Heffner, SW NW NE 2-11-3w, dry, Oswego 4,105 ft., T.D. 4,287 ft.

Clark & Co. 1 Guthrie, NW SW SE 15-12-3w, dry, T.D. 4,142 ft.

Sunray 3 Jones-Harn, SE NW NW 27-12-3w, pumped 253 bbl. oil plus 6 per cent water, Wilcox 6,475 6,546 ft., T.D. 6,551 ft.

Phillips 3 Whitfield, SW SE SE 34-12-3w, pumped 530 bbl., Wilcox 6,283 ft., T.D. 6,498 ft.

Sasakwa, Seminole County: Helmerich & Payne 1 Ryan-A, SE SE SW 6-6-8, pumped 9 bbl., sand 1,224 ft., T.D. 1,240 ft.

Eason & Grisso 3 Bryant, SW SW NW 7-6-8, dry, Calvin 1,108 ft., T.D. 1,271 ft.

Eason & Grisso 1 Harris, SE SE NE 12-6-7, pumped 5 bbl. oil, Calvin 1,112 ft., T.D. 1,197 ft.

Seminole, Seminole County: Leo Woods 1-A Fixico, SE NE 23-9-6, old well, old T.D. 3,995 ft., Wilcox 4,168 ft., T.D. 4,176 ft., pumped 5 bbl.

St. Louis, Pottawatomie County: Sinclair Prairie 2 Bruno, S½ N½ NE 26-7-4, old well, old T.D. 4,209 ft., Wilcox 4,173 ft., T.D. 4,209 ft., pumped 324 bbl.

North St. Louis, Pottawatomie County: Amerada 2 Anton Peters, NE NW SW 27-8-4, flowed 571 bbl. in 19 hr., Hunton 3,834 ft., acid, T.D. 3,889 ft.

Wetumka, Hughes County: Phillaine 1 Wetumka, SE NW SW 13-9-10, pumped 85 bbl. oil and 1,500 bbl. water, Hunton 3,750 ft., T.D. 4,000 ft.

South Woolsey, Stephens County: Fair Operating 1-A Baker-B, SE NW NE 35-2s-6w, flowed 900 bbl. in 30 hr. through 1-in. choke on tubing, Arbuckle 1,783 ft., T.D. 1,805 ft.

Fair Operating 3-A Baker-A, NW SW NE 35-2s-6w, pumped 50 bbl., pay 1,817 ft., T.D. 1,840 ft.

Fair Operating 1 Holloway, SE SW SE 26-2s-6w, dry, T.D. 2,020 ft.

Miscellaneous

Creek County: Tibbens 5 Wilson, SW NW SE 18-14-9, old well, Bartlesville 2,792 ft., T.D. 3,264 ft., dry.

Bruin 4 Morton-B, NW NW SW 27-14-10, dry, Wilcox 3,290 ft., T.D. 3,322 ft.

Deep Rock 1 Anthis, SE SW SE 22-18-9, flowed 6 bbl., Prue 2,003-46 ft., T.D. 2,049 ft.

Hughes County: Helmerick & Payne 2 Hatfield, NE SE SE 10-8-9, gaged 3,000,000 cu. ft. gas, 450 lb. R.P., Cromwell 3,371-81 ft., T.D. 3,390 ft.

Le Flore County: Le Flore 48 Lowery, SE SE NW 11-6-22, gaged 2,000,000 cu. ft. gas, 297 lb. R.P., pay 1,746-1,890 ft., T.D. 1,985 ft.

(Continued on Page 67)

KANSAS, NEBRASKA

New Work Drops Sharply But Wildcatting Continues

By ROBERT INGRAM

BY last week the slowdown in field work because of M-68 was evident. There were only 15 new operations reported. Explanation was that operators were still in the dark as to exactly how to proceed with their work. So far there had been no clear-cut ruling on spacing patterns, and no exceptions to the 40-acre rule had been reported.

As in other parts of the oil country, however, wildcatting, unrestricted as to materials, was proceeding about at a normal pace. Four of last week's 15 new wells in Kansas were wildcats. Completions were also still about normal, although they, too, were beginning to show a steady drop.

KANSAS COMPLETIONS

Wildcats

Barton County: Helmerich & Payne 1 Kent estate, S½ SW NE 31-18-13w, dry, anhydrite 804 ft., Topeka 2,840 ft., Lansing 3,156 ft., Arbuckle 3,400 ft., T.D. 3,434 ft.

Norton County: Helmerich & Payne and Phillips 1 Voss, NE NE SE 19-5-21w, dry, anhydrite 1,844 ft., Topeka 3,190 ft., Lansing 3,424 ft., granite wash 3,705 ft., granite 3,731 ft., T.D. 3,733 ft.

Rooks County: Derby Oil and Crow Drilling 1 Steele, N½ NW NW 9-6-20w, pumped 61 bbl. oil in 8 hr., potential 183 bbl., Lansing 3,359 ft., base Kansas City 3,549 ft., basal sand 3,613 ft., 4-in. 3,602 ft., T.D. 3,638 ft. in granite, *discovery.*

Fields

Bedford, Stafford County: Harry Gore et al 1 Heyen, NW SE NW 28-23-1w, 150 bbl., Arbuckle 3,842 ft., T.D. 3,852 ft.

Chase, Rice County: Murfin and Phillips 1 Droff, NE NW SW 36-19-10w, dry, T.D. 3,304 ft.

McPherson Drilling 3 Campbell, NW SE SE 8-19-9w, 2,550 bbl., Arbuckle 3,233 ft., T.D. 3,237 ft.

Cities Service 2 Young, NE SW SE 8-20-9w, 591 bbl., Arbuckle 3,244 ft., T.D. 3,255 ft.

Cunningham, Pratt County: Drillers Gas 3 Gerber, SW NE SE 35-27-11w, 864 bbl., Lansing 3,490-3,526 ft., T.D. 3,626 ft.

Skelly 7 Leisman, W½ S½ SW 20-27-10w, gaged 17,100,000 cu. ft. gas, Arbuckle 4,078-92 ft., T.D. 4,221 ft.

Eldorado, Butler County: Cities Service 139 Wilson, NW NE SW 8-25-5e, old well, old T.D. 1,737 ft., Kansas City 1,962 ft., T.D. 2,030 ft., pumped 20 bbl.

Cities Service 211 Wilson, NW NE SE 8-25-5e, pumped 20 bbl., Kansas City 1,979 ft., T.D. 2,053 ft.

Cities Service 121 Chesney, NW SE SE 21-25-5e, pumped 15 bbl., Kansas City 2,161 ft., T.D. 2,203 ft.

East Frog Hollow, Cowley County: Tulsa Oil 1 Pruett, NW SW NE 14-32-5e, 188 bbl., Bartlesville 3,020-44 ft., T.D. 3,099 ft.

Gorham, Russell County: Eldorado Refining 1 Mills, E½ SE SW 12-14-15w, 421 bbl., Lansing 3,003 ft., T.D. 3,093 ft.

Greenvale, Russell County: Central 5 Kuhnle, E½ SE SW 4-15-12w, 1,030 bbl., Lansing 3,082-90 ft., T.D. 3,314 ft.

Gustason, Russell County: Stanolind 1 Kastrup, S½ SW NW 14-15-12w, 240 bbl., Arbuckle 3,197 ft., T.D. 3,200 ft.

Hall-Gurney, Russell County: Texas 4 Schnoor, W½ NW SW 31-14-13w, 1,149 bbl., Lansing 2,907 ft., T.D. 2,963 ft.

Stanolind 3 Letsch-A, S½ NW SE 4-15-13w, 418 bbl., Dodge 2,886-92 ft., T.D. 3,044 ft.

Kraft-Prusa, Barton County: Black-Marshall 1-A Redetzke, SE SW SE 19-16-11w, 265 bbl., Basal sand 3,357 ft., T.D. 3,360 ft.

B. B. & M. 6 Esfeld, SW SE SE 28-16-11w, 1,662 bbl., Arbuckle 3,390 ft., T.D. 3,394 ft.

Central Petroleum 1 Steuder, E½ NW SE 10-17-11w, 241 bbl., Arbuckle 3,286 ft.

Laton, Rooks County: Vickers 1-A Blank, S½ S½ NE 14-9-16w, 244 bbl., Lansing 3,350-56 ft., T.D. 3,363 ft.

Lost Springs, Marion County: Ring-Mac 3 Hajek, E½ SE SW 33-17-4e, 182 bbl., Mississippi lime 2,387 ft., T.D. 2,420 ft.

Northeast Peace Creek, Reno County: Leader Oil 2 Tonn, NE SW SW 11-23-10w, 3,000 bbl., Viola 3,755 ft., T.D. 3,766 ft.

Magnolia 3 Yust, SW NE SW 15-23-10w, 3,000 bbl., Viola 3,765 ft., T.D. 3,774 ft.

Ray, Phillips County: Cities Service 5 Pinkerton, SW NE SW 29-5-20w, potential 3,000 bbl. oil, Arbuckle 3,630-40 ft.

Richardson, Stafford County: Republic Natural 1 Hart, NW SW SE 20-22-11w, old well, old T.D. 3,629 ft., Arbuckle 3,644 ft., T.D. 3,647 ft., pumped 9 bbl.

Silica, Barton County: Phillips 4 Petz, W½ SW NE 7-20-11w, 2,641 bbl., Arbuckle 3,319 ft., T.D. 3,339 ft.

Simpson Oil 2 Duncan-A, S½ NE NW 8-20-11w, dry, T.D. 3,398 ft.

Soeken, Barton County: Stanolind 2 Soeken, SE NW NW 22-17-11w, potential 3,000 bbl., Arbuckle 3,292 ft., T.D. 3,298 ft.

St. John, Stafford County: Ohio 1 Sutton, SE NW SW 27-24-13w, dry, T.D. 4,200 ft.

East Wherry, Rice County: K. D. Holland 2 Brothers, NW SE SE 12-21-7w, 25 bbl., conglomerate 3,456-64 ft., T.D. 3,478 ft.

Miscellaneous

Greenwood County: Jackman & Jackman 2 Fankhouser, NE NW NW 16-23-13e, pumped 30 bbl., Mississippi lime 1,770 ft., T.D. 1,803 ft.

Barada and Ogle Pools Get New Producers

ST. JOSEPH, Mo.—Skelly Oil Co. 1 Mary Mack was showing for the ninth producer of the Barada pool in Richardson County, Nebraska. Possibilities were seen for the fourth well in the Dawson pool of the same county when Power Oil Co. cored pay in the Hunton at 1 D. E. Bohrer. However, this company decided to try first for production in the Viola lime. If nothing is found there the well will be completed in the Hunton. The Forest City basin, like other oil areas, was very quiet as a result of wartime orders and conditions.

APPALACHIAN FIELDS

Drilling Near West Virginia Discovery Delayed By M-68

PITTSBURGH, Pa.—In Kanawha County, West Virginia, where a Big lime pool was opened up by the Columbian Carbon Co. on the Homer C. Jones farm in Poca district and on which are five producing wells with a total potential of over 500 bbl. a day, the South Penn Natural Gas Co. completed a west offset on the G. W. Burdette farm at 1,630 ft. The well appears good for 100 bbl. a day with 250,000 cu. ft. of gas before acidizing. As there is untested acreage to the north and south on which locations have been made, it is regretable that these tests must wait until some modification of OPM M-68 permits spudding.

WEST VIRGINIA COMPLETIONS

Boone County, Crook district: Pond Fork Oil & Gas 19 fee, 974,000 cu. ft. gas before shot; Big lime 1,937-2,138 ft., T.D. 2,138 ft.

Washington district: South Penn 1 Della White, 198,000 cu. ft. gas before acidizing, Big lime 1,595-1,796 ft., Injun 1,796 ft., T.D. 1,798 ft.

Cabell County, Barboursville district: Cumberland Gas Co. 1 Marie Elwell, 94,000 cu. ft. gas after shot, brown shale 2,790-3,168 ft., T.D. 3,178 ft.

Cumberland 1 Anna S. Brady, 42,000 cu. ft. gas after shot, will abandon; brown shale 2,940-3,280 ft., T.D. 3,290 ft.

Calhoun County, Sherman district: Hope Natural 8568 Allen Hardman, uncommercial volume gas; will abandon; Injun 2,073-2,152 ft., gas 2,104 ft., gas 2,137 ft., T.D. 2,189 ft.

W. V. Knight 2 J. B. Ward, 1½ bbl. oil, Big Injun 1,971-2,120 ft., oil 2,110 ft., T.D. 2,141 ft.; will abandon.

Washington district: A. E. Weaver and Z. N. Connelly 1 Peter McCune, not enough gas to test, will abandon; Big lime 1,940-2,035 ft. Injun 2,035 ft., T.D. 2,039 ft.

Clay County, Henry district: Thompson Gas 54-T Scott, 400,000 cu. ft. gas; Big lime 1,967-2,085 ft., gas 2,102-24 ft., T.D. 2,137 ft.

Doddridge County, McClellan district: Coffman Oil & Gas 1 Jefferson Ashcraft, dry in all sands, drilled through Gordon sand, T.D. 2,907 ft.

Gilmer County, Center Township: Chartiers Oil 17 Daniel Huffman, 400,000 cu. ft. gas, through Berea, T.D. 2,810 ft.

Verle M. Stewart 2 Francena Sourbourn, 250,000 cu. ft. gas, Maxton sand, T.D. 1,496 ft.

Mingo County, Harvey district: Breedon Oil & Gas Co. 2 Hiram Stafford (P. Moore), 3 bbl., Maxton sand, T.D. 1,425 ft.

Upshur County, Banks district: Cumberland and Allegheny Gas Co. 311 L. E. Jones, 58,600 cu. ft. gas, Riley sand 3,863-74 ft., gas 3,867-69 ft., T.D. 3,878 ft.

Buckhannan district: Pittsburgh & West Virginia Gas Co. 7844 M. F. Higginbottom, 225,000 cu. ft. gas; elev. 1,715 ft., Gordon 2,679-2,726 ft., gas 2,706-12 ft., T.D. 2,726 ft.

Wood County, Union district: C. B. Smith et al 1 Lena Mellinger, 5 bbl. from Cow Run sand at 1,170 ft., drilling at 1,610 ft. to test Maxton sand, if unproductive, will be plugged back to Cow Run.

Forty-Three Operations Shut Down in Oriskany Gas Fields

As the wells in this area are mostly deep, 5,000 ft. or over, a fair number are drilling. Yet 43 new operations are shut down awaiting some modification of M-68. This includes some to test possible extensions of Big lime gas lenses.

ORISKANY COMPLETIONS

Jackson County, Ravenswood district: Joe Rubin et al 1 U. G. Weekley, 7,797,000 cu. ft. gas, Oriskany 4,912 ft., shot 4,910-34 ft., T.D. 4,934 ft., R.P. 1,800 lb. in 12 hr.

Columbian Carbon 1 B. F. Weekley, 862,000 cu. ft. gas, Oriskany 5,005 ft., shot 5,008-48 ft., T.D. 5,098 ft., R.P. 1,870 lb., 31 hr.

Mullins Gas 1 E. B. Morehead, 1,142,000 cu. ft. gas, Oriskany 5,116 ft., gas 5,117-21 ft., gas 5,134-60 ft., shot 5,116-51 ft., T.D. 5,160 ft.

Kanawha County, Poca district: Godfrey L. Cabot 1 I. M. Higginbotham, 1,928,000 cu. ft. gas, Oriskany 5,089 ft., shot 5,096-5,116 ft., T.D. 5,166 ft., R.P. 925 lb., 31 hr.

Columbian Carbon 1 Van Jones, 84,000 cu. ft. gas before shot; Corniferous lime 5,182 ft., Oriskany 5,308 ft., T.D. 5,396 ft.

South Penn 1 Cleo Burdette, 1,100,000 cu. ft. gas; Oriskany 5,134 ft., shot 5,143-64 ft., T.D. 5,178 ft., R.P. 1,310 lb., 15 hr.

Southwest Pennsylvania Well Makes Record Flow for Field

On Chestnut Ridge in South Union Township, Fayette County, Pennsylvania, New Penn Development Co., William E. Snee, et al struck a volume of 5,175,000 cu. ft. gas at 6,528 ft. in 4 Heyn (Summit Hotel) and shut down drilling with the gas turned in the line. Here the Tully lime was topped at 6,005 ft., Onondaga chert 6,504 ft., cased 7-in. to 6,511 ft. This test is highest on structure and with the largest recorded open flow from the upper section of the Onondaga lime. Until the gas pressure subsides, it will not be deepened. No test has been made of the rock pressure. On the Kirby heirs test, these operators ran casing to 6,264 ft., drilled ahead and cemented back to 6,300 ft. and have just resumed drilling out cement.

Here Greensboro Gas Co. is drilling daylight only in 1 Barton and have reached 7,362 ft. with no added gas showing from the Onondaga chert. The present volume is about 1,500,000 cu. ft.

SOUTHWEST PENNSYLVANIA COMPLETIONS

Armstrong County, Burrell Township: Equitable Gas 1 E. Fleming, drilled deeper, started 2,802 ft.; 40,000 cu. ft. gas, Bradford sand, T.D. 3,328 ft.

Parks Township: Hyde Park Foundry 1 J. M. Klingensmith, 15,000 cu. ft. gas; Murrayaville 1,155-1,230 ft., Hundred-foot 1,270-1,365 ft., gas 1,158-95 and 1,285 ft., T.D. 1,510 ft.

Clarion County, Limestone Township: United Natural 2 F. Eschlager, 25,000 cu. ft. gas, T.D. 2,900 ft.

Red Bank Township: Owens Illinois 1 Samuel Hetrick, 70,000 cu. ft. gas, T.D. 2,688 ft.

Owens-Illinois 1 Newton Miller, 150,000 cu. ft. gas, T.D. 866 ft.

Greene County, Wayne Township: Lee Wise et al 1 Hixenbaugh, drilled deeper, 858,000 cu. ft. gas, Bayard sand 3,258 ft., gas 3,261-66 ft., T.D. 3,266 ft.

Westmoreland County, Bell Township: Peoples Natural Gas Co. 1 Wilda J. Sparba, 122,000 cu. ft. gas; Bradford sand 3,437-67 ft., gas 3,442 ft., T.D. 3,666 ft.

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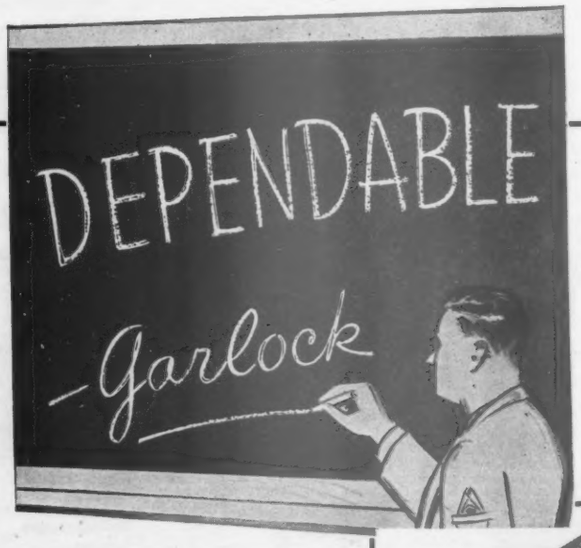

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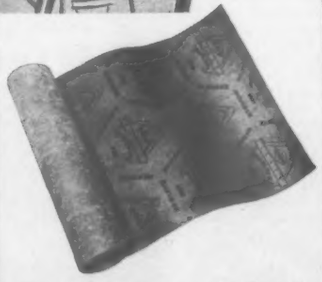
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ROCKY MOUNTAIN AREA

Second Eastern Colorado Wildcat Is Dry Hole

By T. R. INGRAM

DENVER, Colo. — Two eastern Colorado wildcats upon which had been built up hope for a renewal of a big play in that area turned out to be disappointments. Stanolind 1 Snell, on the South Towner structure in Kiowa County, 2 miles west of the Kansas line and 36 miles northwest of that company's discovery in the Patterson pool, Kearny County, last year, drilled to 5,994 ft., and tested all horizons down to and including the Arbuckle without making a discovery. It was plugged and abandoned. The company has several large blocks on both sides of the Colorado-Kansas line extending southward and northward from the South Towner structure and when 1 Snell was started it was understood that another test would be drilled in Prowers County, on the Colorado side, regardless of the outcome of this wildcat, but no announcement has been made recently concerning any such plans.

The other eastern Colorado disappointment was O. E. Terry 1 Whitson, NW NW SE 12-13s-49w, Kit Carson district, Cheyenne County, which is shut down for orders at 4,819 ft., and may be drilled deeper. This well is located ½ mile north of a test drilled by the Gulf Oil Corp. in 1938 which had a show at the horizon tested in 1 Whitson, but continued on to the pre-Cambrian rocks at 6,369 ft. It was on the strength of this showing that 1 Whitson was drilled. The latter picked up some saturation at 4,810 ft. and stopped at 4,812 ft. to move off rotary tools, set casing and to change over to cable tools. It drilled to 4,819 ft. when sulfur water rose 3,000 ft. in the hole. It had the top of the Permian at 2,830 ft., and the Pennsylvanian at 4,220 ft. Elevation 4,491 ft.

Oregon Basin Leases Bring High Prices

The Department of the Interior sale of oil and gas leases on 921 acres in seven parcels in the Oregon Basin field, Park County, Wyoming, at Cheyenne on January 22 resulted in total bids of $316,302.50. Highest price was on 160 acres in SE 29-51n-100w, the bid being $610 an acre, by the Kirk Oil Co. This tract is on the south dome and has been proven by four wells drilled along the east side offsetting the tract. The only wildcat acreage in the lot was Parcel 7 on the southwest flank of the north dome. Summary of high bids is as follows:

Parcel	Location	Acres	Bid per acre	Bidder
1	N½ N½	5-50-100	161.5	$175 Yale Oil Corp.
2	W½ W½	33-51-100	160	210 Husky Ref. Co.
3	NE	32-51-100	160	410 Ohio Oil Co.
4	SE	29-51-100	160	610 Kirk Oil Co.
5	SW NE S½ NW	29-51-100	120	505 Yale Oil Corp.
6	SE SW E½ NW	30-51-100 31-51-100	120	255 Husky Ref. Co.
7	SE SE	7-51-100	40	1 E. W. Krampert

Offset to Big Cut Bank Wells Is Dry

A. B. Cobb 2 Jeffries-Stufft, on the west side of Cut Bank, in an area where anything from a dry hole to big gas wells are found, was a disappointment and had little more than a show of oil with water in the Cut Bank sand and was dry in the Sunburst. It is a northeast offset to Santa Rita 15 Tribal which in December swabbed 468 bbl. the first 24 hours from the Sunburst, and a north offset to his 1 Jeffries-Stufft which last October made 150 bbl. initial from the Sunburst sand. Neither the two last-named wells went into the Cut Bank.

R. C. Tarrant 1 Lenoir, which failed to find any Cut Bank sand, was a wildcat south of the Cut Bank field.

Continental Oil 1 Johnson, O'Brien Springs wildcat, was almost ready to give up at 5,004 ft. in very hard Tensleep sand, topped at 4,944 ft., when for several weeks it had been able to make only a foot or two a day, but is drilling slowly ahead hoping that the formation will soften. It has made 1½ ft. in the past 2 days.

WYOMING COMPLETIONS

Rock River field, Carbon County: Ohio Oil 3 Diamond Cattle, SW NE SE 27-20n-78w, T.D. 3,517 ft., top Dakota 3,425 ft., Morrison 3,502 ft., 6⅝-in. 3,365 ft., pumped 205 bbl. first 24 hr.

Shawnee district, Converse County: Harry Free 1 Jeffries, SW SW SW 26-32n-69w, T.D. 2,502 ft., in Steele shale, temporarily abandoned.

MONTANA COMPLETIONS

Cut Bank field, Glacier County: A. B. Cobb 2 Jeffries-Stufft, NE SE NE 3-35n-6w, T.D. 3,033 ft.; Sunburst sand at 2,951-57 ft., dry; Cut Bank sand 2,990-3,005 ft., water at 3,005 ft., swabbed 38 bbl. water and 2 bbl. oil first 16 hr.; will plug off water and shoot upper Cut Bank at 2,979-90 ft. with 100 qt.

Texas Co. 10 State, C SW SW 16-32n-5w, T.D. 2,880 ft., 7-in. 2,832 ft., Cut Bank 2,825-77 ft., main pay 2,850-77 ft., swabbed 172 bbl. first 24 hr.

R. C. Tarrant 1 Lenoir, SW SW NW 17-31n-5w, T.D. 2,930 ft., top Ellis 2,770 ft., no Cut Bank sand, plugged and abandoned.

Oklahoma Fields

(Continued from Page 65)

Okmulgee County: J. H. Rebold 4 Brooks, SW NE 6-15-13, old well, pay 1,210 ft., T.D. 1,228 ft., gaged 4,000,000 cu. ft. gas, 350 lb. R.P.

Schulte 2 Cox, NW SE SW 12-15-11, dry, T.D. 722 ft.

W. B. Pine 2 Bates, S½ SE NE 30-12-13, dry, T.D. 1,170 ft.

Powers & Quinlan 8 Adams, N½ NW NE 8-14-12, dry, Wilcox 2,780 ft., T.D. 2,790 ft.

Osage County: Sagamore Oil & Gas 411 Osage, W½ SW SW 21-28-10, old well, old T.D. 2,048 ft., pay 2,048-55 ft., T.D. 2,056 ft., pumped 25 bbl. oil.

Link Oil 6 Osage, SW NE SE 27-25-9, dry, Mississippi lime 2,214 ft., T.D. 2,318 ft.

Moore and Skelly 4 Osage, NW NW SW 35-22-8, old well, old T.D. 2,012 ft., T.D. 2,102 ft., pumped 40 bbl.

Pawnee County: Leonard Meeter 1 Cave, SE SW NW 10-20-6, dry, T.D. 3,193 ft.

Tulsa County: Selfred et al 2 Davis, S½ SE NW 11-19-14, gaged 150,000 cu. ft. gas, pay 851-70 ft., T.D. 900 ft.

Wagoner County: Woodward 1 Lowe, SW NE SE 17-18-18, gaged 75,000 cu. ft. gas, pay 660-80 ft., T.D. 733 ft.

Gamble 1 Foley, SW NE SE 16-18-17, dry, T.D. 392 ft.

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See Composite Catalog

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TEXAS GULF COAST

Latest Wilcox Discovery Is Due West of Shepherd Field

By NEIL WILLIAMS

HOUSTON, Tex.—Another Wilcox sand discovery was marked up for the Texas Gulf Coast district as Shell 1 Central Coal & Coke Co., located in the Mercy area, San Jacinto County, was flowing at the rate of 22½ bbl. of 37-gravity oil per hour through a ¼-in. choke. Tubing pressure was 750 lb., and casing pressure 805 lb. Gas-oil ratio was 801:1. The well was drilled to a total depth of 8,310 ft., and production was from sand opposite perforated casing at 8,273-79 ft. While the top of the Wilcox was not available, production was from the upper formation.

The well is located on a block of several thousand acres centering around the J. M. Robinson Survey. It is northeast of Fostoria, and almost due west of the Shepherd field, the only other producing structure in the county, on which one well produces gas-distillate from the Wilcox at 8,215-17 ft. This is the second Wilcox sand discovery to be opened since the first of the year.

Operators interested in this type of development were shifting their attention to Lavaca County where J. G. Mayo et al were preparing to retest 1 Rother, a wildcat located in the M. Wooten Survey, near the town of Halletsville. With the hole bottomed at 9,104 ft., casing was perforated at 8,994-97 ft., and the well flowed salt water with a small amount of gas through open drill pipe. At the close of the week these perforations had been cemented off, and another test was scheduled to be made. Casing was cemented after an electrical survey and side-wall cores showed favorable indications.

Ramers Island Area

In the Ramers Island area, Tyler County, American Republics and Houston Oil Co. 2 Cushing is being retested after the well flowed dry gas from perforated casing at 5,392-94 ft. The well was tested on a ¼-in. choke and tubing pressure was 1,825 lb., and casing pressure 875 lb. The perforations were apparently made too high in the sand section, as drill-stem testing the previous week in the Cockfield at 5,390-5,406 ft., recovered several hundred feet of pipe-line oil. The well is located 1⅛ miles northeast of the New Camp Eleven field, and about the same distance southwest of the Joe's Lake field, both of which produce from the Wilcox sand.

Test South of Anahuac

South of the Anahuac field, Chambers County, Rowan & Nichols 1 W. H. Land, flowed an estimated 4,000,000 cu. ft. of gas and an unestimated amount of distillate and salt water from perforated casing, and the operators are preparing to retest. Whether another test will be made up the hole, was not announced. Production test in a series of sands below 9,000 ft. tested gas and distillate, and it is possible that final completion may be made in this section which is identified as the basal Frio.

La Ward Defined Southwest

The southwest side of the active North La Ward field, Jackson County, was defined as Salt Dome 1 Farquhar was abandoned at 5,495 ft. The well is located about 2,000 ft. due west of the company's 1 Dickey, completed several weeks ago as a high gas-oil ratio producer. North of this well, Harrison & Abercrombie are having trouble in completing 1 Woodruff as testing continues at 5,210-12 ft. In the meantime, the field was extended several hundred feet to the northwest as Magnolia 10 Gordon flowed 116 bbl. daily through a ⅛-in. choke from perforated casing at 5,219-22 ft.

TEXAS GULF COAST COMPLETIONS

Wildcats

Jackson County: Sun 1 Hasdorff, dry, T.D. 6,511 ft.
Newton County: H. C. Cockburn 1 Texas A. & M. College, dry, T.D. 10,381 ft.
Walker County: Joe Ehlinger 1 Foster, dry, T.D. 2,458 ft.

Fields

Clodine, Fort Bend County: Providence Oil Co. 3 Hatfield, 79 bbl., 3/32-in. choke, top sand 7,462 ft., T.D. 7,532 ft.
Dyersdale, Harris County: H. C. Cockburn, 394 bbl., ¼-in. choke, perf casing 4,068-72 ft., T.D. 4,086 ft.
Esperson, Liberty County: General Crude 29 Davis, 2,500,000 cu. ft. gas, ⅛-in. choke, perf. casing 8,400-15 ft., T.D. 8,859 ft.
Fig Ridge, Chambers County: Texas 5 Broussard, 451 bbl., ¼-in. choke, perf. casing 8,500-25 ft., T.D. 8,597 ft.
Ganado, Jackson County: Texas 2 Tunison, 156 bbl., ⅛-in. choke, perf. casing 6,432-42 ft., T.D. 6,668 ft.
Lolita, Jackson County: Cox & Hamon 2 I. N. Mitchell, 119 bbl., ⅛-in. choke, perf. casing 5,291½-95 ft., T.D. 5,950 ft.
Lake Creek, Montgomery County: Superior 1-C McWhorter, 535 bbl., ¼-in. and 12/64-in. chokes, perf. casing 9,256-85 ft. and 9,775-9,803 ft., T.D. 10,325 ft.
Magnet, Wharton County: Humble 55 H. C. Cockburn, dry, T.D. 6,605 ft.
Maurbro, Jackson County: Humble 5 Drushel, 480 bbl., ¼-in. choke, sand 5,220-34 ft.
Humble 9 Robbins, 487 bbl., ¼-in. choke, sand 5,221-30 ft.
Nash, Fort Bend County: Atlantic 2 Groce, dry, T.D. 6,510 ft.
Needville, Fort Bend County: W. L. Goldston 1 A. Smith, 244 bbl., ¼-in. choke, perf. casing 5,190-5,215 ft., T.D. 5,263 ft.
Port Neches, Orange County: Phillips 1 Hall, dry, T.D. 6,200 ft.
North La Ward, Jackson County: Gulfboard 1 Farquhar, dry, T.D. 6,608 ft.
Magnolia 9 Gordon, 115 bbl., 9/64-in. choke, perf. casing 5,203-06 ft., T.D. 5,225 ft.
North Markham, Matagorda County: Ohio 1 Pietz, 199 bbl., ⅛-in. choke, perf. casing 7,726-30 ft., T.D. 8,125 ft.
Provident City, Lavaca County: Shell 1 Neuhaus, 90 bbl., ¼-in. choke, T.D. 10,300 ft.
Tomball, Harris County: Humble 6 Rudel, 29 bbl., ¼-in. choke, perf. casing 5,586-92 ft., T.D. 5,595 ft.
Withers, Wharton County: F. W. Michaux 55-A Pierce, 9 bbl., ⅛-in. choke, perf. casing 5,290-96 ft., T.D. 5,400 ft.
Texas 104-C Pierce, 95 bbl., ⅛-in. choke, perf. casing 5,337-56 ft., T.D. 5,380 ft.

LOUISIANA GULF COAST

Field Drilling Is Replaced By Extensive Wildcatting

By F. L. SINGLETON

NEW ORLEANS, La.—While field development in the Louisiana Gulf Coast district was being curtailed to some extent by the recent well-spacing regulation, wildcatting activity and geophysical work were being increased and all indications point to an active exploration program during the year. Wildcats were being started in Vernon, Cameron and Terrebonne parishes, while new geophysical work was reported under way in Vernon and St. Mary parishes.

The Bayou Blue dome, Iberville Parish, on which new production was opened on the north and east flanks the past year received another important test with the staking of 1 Carrie Schwing on the south flank. The well is to be drilled by the Superior Oil Co. of California and is located about ⅛ mile from the dome in 72-9s-11e. As the result of exploration around the flanks of the structure, it is now one of the most active oil fields in the district.

Although no locations have been reported, three prospects in St. James, Iberville and St. Mary parishes are scheduled to be started in the near future. In St. James Parish, Phillips Petroleum Co. obtained a farmout from Amerada Petroleum Corp. on the Bayou Sorrel prospect, while on the St. James prospect, St. James Parish, Skelly Oil Co. and Cities Service Oil Co. are reported to be making preparations to drill. Geophysical work is being started south and southwest of the town of Franklin where a block of several thousand acres was recently assembled by P. L. Davis. A deep test drilled in the area the past year logged sufficient showings to set casing for a production test, but no commercial production was ever developed.

Two Fields Limited

Dry holes marked the limits of two fields in Vermilion and Cameron parishes. Phillips Petroleum Co. was preparing to abandon 1 Caldwell Sugar Co., a north outpost in the Erath field, Vermilion Parish, while in the Pecan Lake area, Cameron Parish, Superior Oil Co. of California 3-B Miami Corp. was abandoned with no shows at a total depth of 10,997 ft.

A late gage on Atlantic 1 Hawkins unit which opened a new sand in the lower Wilcox sand for the Neale field, Beauregard Parish, showed an initial production of 410 bbl. of 56-gravity distillate per day through a ¼-in. choke. This is the first distillate production to be produced in the field from the lower sand which produces pipeline oil in two wells from a sand slightly higher. Production in 1 Hawkins unit is from perforated casing opposite sand at 11,116-30 ft. Rig from the well is being moved to the Wellborn lease in 27-3s-11w.

IMPORTANT LOCATIONS

Cameron Parish: Union Sulphur 1 Hebert, Big Lake area, in 12-12s-9w.
Vernon Parish: Shell 1 Louisiana Long Leaf Lumber Co., projected 8,000-ft. Wilcox test in 15-4n-5w.
Terrebonne Parish: Texas 1 State, a semiwildcat in the Point Au Fer field in 36-20s-11e.

LOUISIANA GULF COAST COMPLETIONS

Wildcats

Avoyelles Parish: Placid Oil Co. 1-A Southwestern Improvement Co., dry, T.D. 7,800 ft.
Placid Oil Co. 1-D Southwestern Improvement Co., dry, T.O. 7,474 ft
Calcasieu Parish: Union Oil Co. of California 1 Gray, dry, T.D. 10,401 ft.

Fields

Anse La Butte, St. Martin Parish: Stanolind 2 Bergeron, 190 bbl., 9/64-in. choke, perf. casing 6,035-60 ft., T.D. 6,189 ft.
Stanolind 1 Paten, dry, T.D. 4,517 ft.
Bayou Sale, St. Mary Parish: Humble 2 Marin, 357 bbl., 5/32-in. choke, perf. casing 10,158-68 ft., T.D. 10,252 ft.
Texas 1 East Cote Blanche Bay, dry, T.D. 11,519 ft.
East Hackberry, Cameron Parish: Union Sulphur 410 Watkins, 159 bbl., 10/64-in. choke, perf. casing 6,752-62 ft., T.D. 8,085 ft.
Gueydan, Vermilion Parish: Fohs 1 Evans, 416 bbl., 10/64-in. choke, T.D. 9,586 ft., P.B. T.D. 9,555 ft.
Fohs 7 Mulvey Irrigation Co., 36 bbl. distillate and 2,183,000 cu. ft. gas, 11/64-in. choke, perf. casing 9,620-26 ft., T.D. 9,653 ft.
Neale, Beauregard Parish: Atlantic 1 Hawkins Unit 1, 186 bbl., ⅛-in. choke, perf. casing 1,532-74 ft., T.D. 12,584 ft.
Port Barre, St. Landry Parish: Wm. Helis 1 Futral, dry, T.D. 6,020 ft.
Schooner Bayou, Vermilion Parish: Union Oil Co. of California 2-A Vermilion Parish School Board, 312 bbl., 10/64-in. choice, perf. casing 10,042-58 ft., T.D. 10,600 ft.
Vinton, Calcasieu Parish: W. T. Burton 4 Lutcher Moore Lumber Co., 218 bbl., 10/64-in. choke, sand 6,010-15 ft., T.D. 6,376 ft.

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Legal Name of Operator or Supplier

Signature of Designated Official

3. (i) No Supplier may apply a rating to obtain Material in greater quantities or on earlier dates than required to enable him to make on schedule a delivery rated hereunder or, within the limitations of paragraph (d) (3) (ii) below, to replace in his inventory Material so delivered. He shall not be deemed to require such Material if he can make his rated delivery and still retain a minimum practicable working inventory thereof; and if, in making such delivery, he reduces his inventory below such minimum, he may apply the rating only to the extent necessary to restore his inventory to such minimum.

(ii) A Supplier, in restoring his inventory to minimum practicable working inventory, may defer applications of the ratings hereunder to purchase orders or contracts for such Material to be placed by him until such time as he can place a purchase order or contract for the minimum quantity procurable on his customary terms: *Provided*, that he shall not defer the applications of the rating for more than three months after he becomes entitled to apply such rating.

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Oil Field Specialties

PARKERSBURG, WEST VIRGINIA

Field Work Sags; Twenty-two Locations Are Abandoned

MATTOON, Ill.—Wildcat activity featured Illinois field work last week as operations slumped to the lowest ebb since 1937. Only 24 producing wells, 19 less than a week ago, were completed. In addition there were 19 dry holes and 22 locations abandoned. The majority of the locations abandoned were abandoned to prevent violation of the 40-acre spacing regulation. Only 19 new tests were started.

McClosky Pool Opened

Top oil news of the week for the eastern part of the Illinois basin was the promising showing made at the Bonpas Development Co. 1 James Woods, wildcat test in W½ SW SE 21-2n-14w, Richland County. The well drilled into 7 ft. of porous McClosky from 3,090-97 ft., stopping in the pay. A drill-stem test flowed in ½ hour to indicate that the county has a new pool about 1½ miles northeast of the Parkersburg pool.

State Oil Quota Cut

Illinois' maximum daily oil production quota for February, set by federal Petroleum Coordinator Harold L. Ickes, is 371,800 bbl., according to an announcement last week by G. C. Curtis, state superintendent of oil and gas conservation. The February quota is 14,600 bbl. daily less than the 386,400 bbl. daily rate for January.

Pure Operating on 40-Acre Spacing

Contrary to reports current last week that the Pure Oil Co. had staked several wells on a 20-acre spacing pattern in the Illinois basin, it was learned from officials of the company that all the locations were staked on 40-acre units in accordance with a spacing program which the company said it would follow in the basin area and which had been recommended to OPM by OPC.

Under this program the location of each well within the 40-acre unit would be determined by the location of the first well drilled in the area after December 23.

ILLINOIS COMPLETIONS

Wildcats

Bond County: C. Moritz et al 1 Bone-White, NE SW NE 17-5n-4w, dry at 726 ft., Pottsville 608 ft.

Clinton County: F. A. McNeil et al 1 F. Vogel, NE NE NE 6-1n-2w, dry at 1,282 ft., Tar Springs sand 850 ft., Glen Dean 920 ft., Benoist 1,255 ft.

Coles County: Carter 1 J. L. Hamilton, NE NW 11-13n-7e, dry at 1,874 ft., Tar Springs 1,500 ft., Barlow 1,631 ft., Cypress 1,655 ft., Benoist 1,793 ft., Renault 1,831 ft., Aux Vases 1,854 ft.

Cumberland County: Joe Hassett 1 Travis, SE SE SW 21-9n-10e, dry at 509 ft., sand 270 ft.

Franklin County: O'Meara 1 Franklin County Coal, NW SE NE 2-5s-2e, dry at 2,942 ft., Menard 2,010 ft., Glen Dean 2,210 ft., Golconda 2,312 ft., Cypress 2,454 ft., Cypress sand 2,499 ft., Paint Creek 2,573 ft., Renault 2,703 ft., Aux Vases 2,713 ft., Ste. Genevieve 2,779 ft., Fredonia 2,843 ft., McClosky 2,898 ft.

Jefferson County: Carrey 1 Carson estate, N½ NE SE 6-4s-2e, dry at 2,833 ft., Glen Dean 2,181 ft., Golconda 2,288 ft., Barlow 2,395 ft., Cypress sand 2,447 ft., Paint Creek 2,581 ft., Benoist 2,599 ft., Renault 2,632 ft., Aux Vases 2,656 ft., Aux Vases sand 2,666 ft., Ste. Genevieve 2,720 ft., Rosiclare 2,748 ft., McClosky 2,823 ft.

Kennedy & Gilbert 1 Dunavan, SW NW SE 1-4s-2e, dry at 2,904 ft., Kincaid 1,724 ft., Menard 1,959 ft., Waltersburg 2,006 ft., Tar Springs 2,087 ft., Glen Dean 2,183 ft., Golconda 2,271 ft., Barlow 2,417 ft., Cypress sand 2,425 ft., Paint Creek 2,497 ft., Benoist 2,581 ft., Aux Vases sand 2,671 ft., Ste. Genevieve 2,706 ft., Rosiclare 2,760 ft., Fredonia 2,799 ft., St. Louis 2,897 ft.

Macoupin County: R. G. Whipple 1 H. C. Rhoades, NW SE SW 35-9n-8w, pumped 10 bbl. oil and 8 bbl. water, 15-qt. shot on bottom, Pottsville 400 ft., pay 412-17 ft., T.D. 421 ft.

Marion County: National Pet. 1 Lindley, E½ NE SW 22-2n-4e, dry at 2,764 ft., Menard 1,933 ft., Vienna 2,042 ft., Tar Springs 2,085 ft., Glen Dean 2,148 ft., Hardinsburg 2,171 ft., Golconda 2,237 ft., Barlow 2,321 ft., Cypress 2,346 ft., Cypress sand 2,374 ft., Paint Creek 2,434 ft., Benoist 2,518 ft., Renault 2,585 ft., Aux Vases 2,605 ft., Ste. Genevieve 2,645 ft., Rosiclare 2,667 ft., Fredonia 2,685 ft., McClosky 2,692 ft.

Richland County: Seaboard 1 G. Steber, SW NE 3-3n-14w, dry at 3,126 ft., West Franklin 835 ft., Glen Dean 2,541 ft., Hardinsburg 2,570 ft., Barlow 2,811 ft., Paint Creek 2,898 ft., Renault 2,936 ft., Aux Vases 2,961 ft., Ste. Genevieve 3,005 ft., McClosky 3,016 ft., St. Louis 3,100 ft.

Wabash County: Dean & Morton 1 Whiteside, SW NE NW 17-1n-11w, dry at 1,610 ft., Biehl 1,408 ft., Menard 1,497 ft., Waltersburg 1,512 ft., Vienna 1,534 ft., Tar Springs 1,546 ft.

Wayne County: L. & W. Drlg. 1 Crumbacker, S½ NE SE 9-1s-5e, dry at 3,154 ft., Glen Dean 2,442 ft., Golconda 2,529 ft., Barlow 2,653 ft., Paint Creek 2,833 ft., Benoist 2,902 ft., Renault 2,945 ft., Aux Vases 2,960 ft., Aux Vases sand 2,965 ft., Ste. Genevieve 3,007 ft., Fredonia 3,079 ft., McClosky 3,082 ft.

White County: De Lapp 1 Biggerstaff, E½ SE NW 33-5s-8e, dry at 3,474 ft., base Pennsylvanian 2,294 ft., lower Kincaid 2,331 ft., Palestine 2,415 ft., Menard 2,485 ft., Vienna 2,604 ft., Tar Springs 2,643 ft., Hardinsburg sand 2,805 ft., Golconda 2,870 ft., Cypress sand 3,048 ft., Benoist 3,190 ft., Renault 3,230 ft., Aux Vases 3,308 ft., Ste. Genevieve 3,342 ft., Rosiclare 3,364 ft.

R. S. Hayes 1 D. H. Vaughn, NE NE NE 21-3s-8e, dry at 3,589 ft., base Pennsylvanian 2,500 ft., Menard 2,542 ft., Waltersburg 2,586 ft., Waltersburg sand 2,609 ft., Tar Springs 2,695 ft., Glen Dean 2,758 ft., Hardinsburg 2,823 ft., Golconda 2,912 ft., Barlow 3,018 ft., Paint Creek 3,186 ft., Benoist 3,298 ft., Renault 3,325 ft., Aux Vases 3,365 ft., Ste. Genevieve 3,418 ft., Rosiclare 3,450 ft., Fredonia 3,488 ft., McClosky 3,504 ft., St. Louis 3,577 ft.

Fields

Benton, Franklin County: Shell 10 C. W. & F. Coal, NW NW SE 24-6s-2e, pumped 80 bbl., 15-qt. shot 2,124-34 ft., Tar Springs 2,115-34 ft., T.D. 2,134 ft.

East Centerville, White County: Sun 2 G. W. Bixenstine, NE NW SE 7-4s-10e, pumped 250 bbl., 4,000 gal. acid, McClosky 3,210-14 ft., T.D. 3,223 ft.

Centralia, Marion County: A. L. Peterson et al 1 Timberlake, NE SW SE SW 19-1n-1e, pumped 10 bbl., 50-qt. shot 730-74 ft., Petro sand 720 ft., T.D. 774 ft.

Clay City, Wayne County: Pure 3 W. S. Carson, W½ SE NE 11-1n-7e, pumped 98 bbl., 5,000 gal. acid, perf. 2,950-82 ft., 3,020-30 ft., 1,500 gal. acid, Aux Vases 2,952 ft., McClosky 3,057-60 ft., T.D. 3,072 ft.

Clay City West, Clay County: B. F. Williams et al 2 Nolan, N½ SE NW 10-2n-7e, flowed 456 bbl., 1,500 gal. acid, McClosky 3,059-65 ft., T.D. 3,079 ft.

Dahlgren, Hamilton County: Mulcahy 1 Scrivner, S½ NE SE 28-3s-5e, dry at 3,382 ft., Glen Dean 2,604 ft., Aux Vases 3,159 ft., Ste. Genevieve 3,192 ft., McClosky 3,308 ft.

Dale, Hamilton County: Shell 9 W. W. Daily, SE NE NE 12-6s-6e, pumped 16 bbl. oil and 11 bbl. water, 20-qt. shot 3,032-46 ft., 2,000 gal. acid in Levias, Aux Vases 3,014 ft., Ste. Genevieve 3,046 ft., T.D. 3,165 ft.

Eldorado, Saline County: Thompson Drlg. 1 J. Reich, NE SW NE 8-8s-7e, pumped 21 bbl. oil and 21 bbl. water, perf. 2,203-20 ft. in Tar Springs, 40-qt. shot 2,203-20 ft., old well P.B. from 3,003-3,235 ft.

Epworth, White County: National Pet. 4 McQueen, SW NE SW 32-5s-10e, pumped 87 bbl., natural, Clore sand 2,084 ft., T.D. 2,099 ft.

Inman, Gallatin County: Oil Management, Inc., 1 Goebel, SW NW SE 19-8s-10e, dry at 2,903 ft., lower Kincaid 1,688 ft., Palestine 1,859 ft., Menard 1,902 ft., Waltersburg 1,992 ft., Vienna 2,077 ft., Tar Springs 2,126 ft., Glen Dean 2,218 ft., Golconda 2,297 ft., Barlow 2,424 ft., Benoist 2,596 ft., Renault 2,662 ft., Aux Vases sand 2,687 ft., Ste. Genevieve 2,700 ft., Rosiclare 2,734 ft., Fredonia 2,761 ft.

Johnsonville, Wayne County: Wiser Oil 8-B Dickey, E½ SE SE 34-1n-6e, pumped 110 bbl., natural, Aux Vases sand 3,025-42 ft., T.D. 3,046 ft.

Keensburg, Wabash County: Continental 3 J. W. Le Gier, NW SW SE 17-2s-13w, dry at 2,865 ft., Beihl sand 1,697 ft., Palestine sand 1,817 ft., Menard 1,923 ft., Waltersburg 1,994 ft., Vienna 2,034 ft., Tar Springs 2,035 ft., Glen Dean 2,204 ft., Golconda 2,401 ft., Cypress sand 2,468 ft., Benoist 2,537 ft., Renault 2,624 ft., Ste. Genevieve 2,727 ft., McClosky 2,856 ft.

Louden, Fayette County: Carter 5-D Kay Birdie, E½ NW SE 29-8n-3e, pumped 80 bbl. oil and 25 bbl. water, Devonian 2,952 ft., pay 3,017 ft., T.D. 3,038 ft.

Magnolia 1-SWD Buzzard Bros., SE SE SW NE 29-8n-3e, salt-water-disposal well, 40-qt. shot 1,154-94 ft., T.D. 1,194 ft.

Mill Shoals, Hamilton County: C. Robinson 1 McCullough, SE NE NE 24-3s-7e, pumped 144 bbl. oil and 40 bbl. water, 60-qt. shot 3,050-70 ft., Aux Vases sand 3,242-72 ft., T.D. 3,273 ft.

Mill Shoals, White County: Cherry & Kidd 2-M W. W. Gray, NW NE SW 30-3s-8e, pumped 350 bbl., 10-qt. shot 3,202-27 ft., Aux Vases 3,199-3,227 ft., T.D. 3,228 ft.

Cherry & Kidd 7-M W. W. Gray, NE SW NW 30-3s-8e, pumped 150 bbl., 90-qt. shot 3,222-35 ft., Aux Vases 3,219 ft., T.D. 3,239 ft.

Texas 19 A. J. Poorman, SW SE NW 30-3s-8e pumped 75 bbl., 20-qt. shot 3,207-21 ft., Aux Vases 3,193 ft., pay 3,205-24 ft., T.D. 3,225 ft.

New Harmony, White County: Superior 30 E. M. Fitten, NE NE NE 28-4s-14w, pumped 67 bbl., 130-qt. shot 2,832-63 ft., 5-qt. shot 2,858-63 ft., Aux Vases 2,833-49 ft., T.D. 2,863 ft.

(Continued on Page 72)

PITTSBURGH-DES MOINES
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NORTH LOUISIANA, ARKANSAS

Drilling Boom Starts at Midway On 40-Acre Spacing Pattern

By R. MARNE SANFORD

SHREVEPORT, La.—The new Midway field in Lafayette County, Arkansas, had a total of 21 tests last week, all staked since the discovery well was completed some 4 weeks ago. Of this total, there were four tests actually drilling and six others rigging up for immediate spudding. The drilling wells include Robert 1 E. S. Bond, NE SW 11-15-24, which set 16-in. casing at 137 ft. and 10¾-in. at 609 ft. and was bottomed at 617 ft.; Barnsdall Oil 1 Dobson, SW NW 11-15-24, and Barnsdall Oil 2 Dobson, SE NE 10-15-24, both waiting on cement at 640 ft.; and Arkansas Fuel Oil 1 Creek, 15-15-24, drilling at 80 ft.

Other tests rigging up include the 2 and 3 Bond and 1 Creek of Barnsdall Oil Co., located in SE SW 11-15-24, SW SW 11-15-24, and SE SE 10-15, 24, respectively; the P. R. Rutherford 1 Stamps Land Co., SE SW 3-15-24; the Frank and George Frankel 1 J. H. Burns, NW NE 10-15-24; and Magnolia Petroleum 1 J. A. Johnston, NE NW 11-15-24.

The field was discovered by Barnsdall Oil 1 Bond, located in NW SW 11-15-24, which came in for an estimated 12,000 to 15,000 bbl. daily, open flow. It was officially completed for 643 bbl. of oil daily from the Smackover lime from 6,314-78 ft. Expected to have considerable bearing on the completion practices later developed in the field, is the fact that two zones of saturation were found in the discovery well. The 1 Bond topped the Smackover lime at 6,296 ft. and found its first saturation with porosity from 6,314-78 ft. (the zone from which the discovery was completed) and its second zone of saturation and porosity from 6,424 to 6,536 ft., a much thicker and more promising section than that from which the discovery now produces.

The open-flow estimates of 12,000 to 15,000 bbl. daily on the discovery well were based on flows from both of the sections. The well was not allowed, however, to flow open from both of the sections. The practice of dual completions is being considered at the present time by the Arkansas Oil and Gas Commission in El Dorado.

ARKANSAS COMPLETIONS

Wildcats

Patton field discovery well, recompleted, Lafayette County: Tide Water-Seaboard 1 Moore, SW SE 29-17s-24w, formerly completed for discovery well making 215 bbl. distillate daily from 9,312-40 ft., officially abandoned as dry hole, T.D. 9,503 ft. in Smackover lime.

Fields

Macedonia, Columbia County: McAlester Fuel Oil Co. 1 Snider, S½ NE 21-18s-21w, 400 bbl. distillate daily and 3,200,000 cu. ft. gas, T.D. 8,910 ft.

New Horizon at McKamie

Carter Oil Co. was drilling out cement preparatory to perforating from 7,970-80 ft. at 1 Cornelius, 30-17-23, in the McKamie field of Lafayette County. Several weeks ago this well, an old producer plugged back from the deep Smackover lime as a Cotton Valley series prospect, flowed 15 bbl. hourly when tested from 7,255-65 ft. Water broke through and retesting was scheduled. If completed for commercial production it will be the first from the Cotton Valley series for the McKamie field.

Patton Discovery Well Abandoned

Listed among the new gas discoveries of the past year in Arkansas was the Tide Water-Seaboard 1 Moore, SW SE 29-17s-24w, in western Lafayette County. It was originally completed last fall for 215 bbl. of distillate and several million cubic feet of sour gas daily from the Smackover lime from 8,312-40 ft. The past week the well was taken off of production as noncommercial and the hole will be plugged. It is bottomed at 9,503 ft. This well had established a record of finding the sourest gas ever produced in South Arkansas.

North Louisiana Wildcat Gets Good Show of Gas

In Grant Parish a Wilcox zone wildcat has reported commercial shows of gas and is considering feasibility of completion attempts. It is Burnham & Johnson 1 Dubois, 9-7n-4w, between Aloha and Verda. After topping the Midway at 4,863 ft. an electrical survey was made and side-wall cores taken. These revealed commercial shows of gas from several different levels throughout the Wilcox sand section. Market for the gas will determine whether or not completion attempts are made. Regardless of the outcome of this wildcat, indications are that other flank tests will be drilled in search of oil production down the structure from the gas well.

New Wildcats

During the past week there were three new wildcat tests staked in the North Louisiana area, all projected to the Wilcox sands. They are as follows:

Catahoula Parish: Sinclair Prairie 1 Tensas, NW NE 10-8n-5e.

Concordia Parish: California Co. 1 Pan-American, 16-9n-10e.

Lincoln Parish: Carter Oil 1 T. J. Green, SW NE 2-17n-3w.

LOUISIANA COMPLETIONS

Wildcats

Rapides Parish: M. H. Marr and Phillips Pet. Co. 1 Eota Realty Co., SW NE 14-4n-3e, top Vicksburg 1,985 ft., Cockfield 2,415 ft., Cook Mountain 2,960 ft., Sparta 3,235 ft., Cane River 3,736 ft., Wilcox 3,961 ft., Midway 7,014 ft., perf. casing 5,150-52 ft., flowed 27 bbl. oil and 150 bbl. water daily, T.D. 7,078 ft.

Fields

Caddo, Caddo Parish: C. L. Bland 4 Stiles, SW NE 17-21n-16w, pumped 5 bbl. oil, T.D. 1,007 ft.

A. R. Hancock 1-A Carter Oil fee, SW SW 6-21n-15w, dry and abandoned at 1,766 ft., T.D.

Stanolind Oil & Gas 148 Dillon heirs, NW SE 14-21n-15w, pumped 54 bbl. oil, T.D. 1,670 ft.

Stanolind Oil & Gas 4 C. W. Lane, SW NE 13-21n-15w, 22 bbl. oil and 60 bbl. water, T.D. 1,685 ft

Nebo, La Salle Parish: H. L. Hunt 41-A Goodpine, SE NE 21-7n-3e, 157 bbl. oil and 3 bbl. water, perf. casing 3,992-4,000 ft., T.D. 4,360 ft.

Pleasant Hill, Sabine Parish: Rips & Corley 1 Harris, SE NW NE 20-10n-12w, dry at 3,190 ft., T.D.

Sligo, Bossier Parish: Triangle Drlg. Co. 4-C Kerr unit, NE NW 24-17-12w, pumped 30 bbl. oil and 10 bbl. water, perf. casing 3,132-42 ft., T.D.

EASTERN TEXAS FIELDS

Deep Test Planned As Woodbine Again Found Dry

By D. H. STORMONT

DALLAS, Tex.—The Larissa-Bullard-Frankston area of Cherokee, Smith, Henderson, and Anderson counties is in line for a 10,000-ft. wildcat, according to reports from the field during the week. The deep test is said to be planned by Humble Oil & Refining Co., which holds a large block in this sector. No definite location has been staked but the wildcat reportedly will be under way within the next 90 days.

It will be drilled in an area in which there has been considerable exploration for Woodbine sand production. The abandonment this week of the fifth Woodbine wildcat in the sector is believed to definitely condemn production from that formation.

The fifth failure is Iowa-Payne Oil Co. 1 Humble-Weesner, Goliher Survey, in the extreme southeastern part of Henderson County, 2 miles north of Frankston. No. 1 Humble-Weesner attracted the attention of operators in the district last week when it logged the Pecan Gap chalk approximately 32 ft. higher than an abandoned test in the Frankston townsite, 2 miles to the south. However, in drilling deeper, the wildcat topped the Woodbine at 5,004 ft., making it flat to the failure to the south.

At the end of the week, operator had abandoned the test at total depth of 5,116 ft. in the sand. Water was first encountered in the Woodbine at 5,070 ft. The sub-Clarksville was logged from 4,700-50 ft. and the Austin chalk from 4,512-4,700 ft.

Two miles northwest of Navarro Crossing in the northeastern part of Leon County, F. B. Jackson 1 DeVaugh, Little Survey, is nearing the Woodbine sand. At last report, 1 DeVaugh was drilling at 5,160 ft. in the chalk. With an elevation of 252 ft., the wildcat logged a broken section of chalk, which may be the Pecan Gap. If this is the Pecan Gap formation, structural position appears favorable with Humble-Swift extension discovery northwest of the main Navarro Crossing field. The Humble-Swift extension well, with an elevation of 224 ft., topped the Pecan Gap chalk at 4,050 ft.

EAST TEXAS COMPLETIONS

Wildcats

Limestone County: Zephyr Oil Co. 1 Ethel Barron, E. Mabry Sur., 4 mi. S of Grosbeck, 43,000,000 cu. ft. gas, top Austin 2,848 ft., top Woodbine 3,147 ft., top Buda 3,240 ft., top Paluxy 4,133 ft., top Glenrose 4,178 ft., top Pettitt 5,594 ft., T.D. 5,698 ft.

Navarro County: L. T. Davis 1 W. R. Stevenson, T. J. Jourdan Sur., dry at 3,126 ft.

Red River County: O. T. Clark 1 W. F. Edmundson, D. Perkins Sur., 2 mi. SW of Manchester, dry at 1,520 ft.

Van Zandt County: O. F. Wencher 1 Continental Assurance Co., R. C. Morris Sur., 3 mi. W of Edgewood, dry at 4,217 ft., top Woodbine 3,940 ft.

Fields

Hawkins, Wood County: Humble 2-D B. F. Allen, G. Brewer Sur., 488 bbl. in 18½ hr., ½-in. choke, top Austin 4,240 ft., top Woodbine 4,538 ft., pay 4,784-4,824 ft., T.D. 4,852 ft.

Humble 5-D B. F. Allen, E. Wideman Sur., 268 bbl. in 18½ hr., ½-in. choke, top Austin 4,339 ft., top Woodbine 4,525 ft., pay 4,641-4,726 ft., T.D. 4,817 ft.

Humble 1 L. C. Greer, A. W. McKnight Sur., 279 bbl. in 24 hr., ¼-in. choke, top Austin 4,342 ft., top Woodbine 4,598 ft., pay 4,734-48 ft., T.D. 4,788 ft.

Humble 2 J. B. Smith, W. Herrington Sur., 105 bbl. in 6 hr., ¼-in. choke, top Austin 4,497 ft., pay 4,610-4,730 ft., T.D. 4,863 ft.

C. L. McMahon, Inc., 5 L. H. Snider, J. B. Mosley Sur., 103 bbl. in 8 hr., ¼-in. choke, top Austin 4,330 ft., top Woodbine 4,555 ft., pay 4,716-96 ft., T.D. 4,826 ft.

Rudco Oil & Gas Co. 1 H. Minchew, G. Brewer Sur., 113 bbl. in 6 hr., ¼-in. choke, T.D. 4,794 ft.

Stanolind 2 Christian Women's Board of Missions, S. Castleberry Sur., 91 bbl. in 8 hr., ¼-in. choke, top Austin 4,320 ft., top Woodbine 4,516 ft., pay 4,604-4,719 ft., T.D. 4,815 ft.

Texas 7 R. A. and R. M. Cobb, J. H. Heard Sur., 92 bbl. in 8 hr., ¼-in. choke, top Austin 4,241 ft., top Woodbine 4,464 ft., pay 4,584-4,743 ft., T.D. 4,851 ft.

Long Lake, Anderson County: Tide Water 18 Show & Cern, D. Parker Sur., 40,000,000 cu. ft. gas, T.D. 5,270 ft.

Talco, Franklin County: B. G. Byars 1 H. C. Baker, I. Pennington Sur., 78 bbl. in 24 hr., 2½-in. choke, T.D. 4,279 ft.

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MICHIGAN OPERATIONS

Reed City Production Extended Into Richmond Township

By OTTO C. PRESSPRICH

SAGINAW, Mich.—A new southeasterly extension of the Reed City oil field and completion of the first producing well on private lands in the Headquarters field were principal developments last week in Michigan.

Meanwhile the state was protesting to federal authorities against reduction of Michigan crude-oil production to a point which was alleged to be below the actual market demand. However, in accordance with federal orders, P. J. Hoffmaster, supervisor of wells, prepared an order limiting February daily production to 47,000 bbl., 400 bbl. less than the allowable for January. At the same time, Hoffmaster said, surveys indicated the actual demand at 52,000 bbl. To meet the quota, production in Reed City, Winterfield, Headquarters and Adams fields will be limited to 150 bbl. a well the first half of the month and 125 bbl. the last half.

The Reed City field extension, C. L. Maguire, Inc., 1 Riggs is in Section 5 of Richmond Township, which flowed up to 266 bbl. an hour. It is the first producer in Richmond Township and is nearly a quarter mile southeast of Lincoln Township production, and brings production to within 2 miles of Reed City itself. In addition, Reed City operations included completion of Pure Oil Co. A-3 Richards for nearly 300-bbl. an hour initial, Ohio Oil Co. 1 Leusby, and Taggart Brothers 35 Dunn et al, a gasser, all three in Section 20, Lincoln Township.

Three Wells at Hopkins

Allegan County Hopkins field developments continued with three more good producers, while an Allegan wildcat test in Martin Township was dry. Also dry was an Oceana wildcat test and another test in Wisner, Tuscola Township, was abandoned temporarily at 380 ft.

The new Headquarters producer is Eugene Hilliard 2 Felthouse in Section 3, Franklin Township, Clare County. Another Headquarters field producer in Roscommon Township, Roscommon County, is Freeman Oil Co. A-6 State.

Only four drilling permits were issued during the week by the state Conservation Department, resulting, it was believed, from uncertainty over federal spacing regulations and the future of production. Two of the permits are for Kawkawlin-Bay tests, one for Lincoln, the other for Winterfield, both in Clare County. In the Lincoln-Clare district a recent discovery has increased interest.

MICHIGAN COMPLETIONS

Allegan County, Hopkins Township: Muskegon Development 3 Knorr, NE SW SW 18-3n-12w, pump and flow 180 bbl. first 18 hr., acidized, T.D. 1,611 ft.
Muskegon Development 2 Puschel, SW NW SE Sec. 18, pumping 60 bbl., acidized, T.D. 1,580 ft.
C. A. Perry-Gould & Cross 5 Schafer, NW SE SW Sec. 18, pump and flow 125 bbl. first 10 hr., acidized, T.D. 1,634 ft.
Martin Township: R. B. Tamblyn Development Co. 1 Channells, NW SW SE 32-2n-11w, wildcat, dry, T.D. 1,592 ft.
Clare County, Franklin Township: Eugene Hilliard 2 Felthouse, C N½ NW NE 3-20n-3w, 2,640 bbl., natural, T.D. 3,403 ft.
Redding Township: Sun Oil Co. A-2 State, C N½ NW NE 1-19n-6w, 375 bbl., natural, first 16 hr., T.D. 3,797 ft.
Winterfield Township: Taggart Bros. Co. 94 Barhite et al, C SE 30-20n-6w, 6,230,000 cu. ft. natural gas, T.D. 1,362 ft.
Gladwin County, Hay Township: T. F. Caldwell, Inc., 1 Emott, NW SE NW 21-18n-1e, pump 65 bbl. in 2 days, acidized, T.D. 3,652 ft.
Oceana County, Weare Township: Edward B. Strom, Tr., 1 Benjamin-Michigan Trust Co., C E½ NE SW 1-16n-17w, wildcat, dry, T.D. 1,711 ft.
Osceola County: Pure Oil Co. A-3 Richards, C S½ SW NW 20-18n-10w, 7,008 bbl., natural, T.D. 3,628 ft.
Ohio Oil Co. 1 Leusby, C S½ NW SW Sec. 20, 3,240 bbl., natural, T.D. 3,625 ft.
Taggart Bros. Co. 35 Dunn-Meida-Louks, C SE Sec. 20, 10,350,000 cu. ft. natural gas, T.D. 1,145 ft.
Richmond Township: C. L. Maguire, Inc., 1 Riggs C N½ NW NW Sec. 5, 6,384 bbl., natural, T.D. 3,587 ft.
Roscommon County: Roscommon Township: Freeman Oil Co. A-6 State, C N½ SE SW 34-21n-3w, 2,160 bbl., natural, T.D. 3,387 ft.
Tuscola County, Wisner Township: Sprenger Bros. 1 Cosens, NE SE SE 26-14n-7e, temporarily abandoned, T.D. 380 ft.

Permian Basin, Panhandle

(Continued from Page 61)

Hutchinson County: J. E. Crosbie, Inc., 6 Cockrell, 135 bbl., pumping.
Phillips 8 M. Johnson, 153 bbl., pumping.
Gulf 109 Dial, 214 bbl., pumping.
Parton & Holt 11 Whittenburg, 154 bbl., pumping.
Huber Corp. 7 Bryan, 249 bbl., pumping.
Huber Corp. 4 Bryan, 82 bbl., pumping.
Stanolind 4 Mathis, 87 bbl., pumping.
Dave Rubins 3-BH Cal Merchant, 6,400,000 cu. ft. gas.
Wheeler County: Jenkins & Portman 4 Patterson, 52 bbl., pumping.
Smith Bros. 15 Johnson, 1,900,000 cu. ft. gas.

SOUTHEAST NEW MEXICO COMPLETIONS

Wildcats

Eddy County: Paul B. English 1 Jones, 24-19s-31e, pumped 60 bbl. in 14 hr., pay 2,461 ft., T.D. 2,475 ft., *pool opener.*

(Week ended January 24)

Lea County: Culbertson & Erwin et al 1 Beulah Lynch, SW SW 21-19s-32e, pumped 245 bbl. of 24.1-gravity oil, natural, lime 2,740-51 ft., T.D. 2,751 ft. *Pool opener.*
A. H. Hoover 1 Williams, 15-17s-32e, dry at 4,323 ft.

Fields

North Grayburg, Eddy County: Flynn, Welch & Yates 3-B Gissler, SE SE 8-17s-30e, dry at 3,267 ft., light oil shows 2,694-2,702 ft.
Sanders Bros. 2 Leonard, 34-16s-30e, flowed 98 bbl., pay 2,957 ft., shot, T.D. 3,014 ft.

(Week ended January 24)

North Grayburg, Eddy County: Sanders Bros. et al 1 Etz, 34-16s-30e, flowed 210 bbl. in 72 hr., pay 2,960 ft., T.D. 2,994 ft.
Sanders Bros. 2 Leonard, 34-16s-30e, flowed 96 bbl., 150-qt. shot 2,955-3,000 ft., T.D. 3,014 ft.
Maljamar, Lea County: Drilling & Exploration Co., Inc., 2-A-24 Johns, 24-17s-32e, flowed 88 bbl., natural,, pay 4,125 ft., T.D. 4,318 ft.
Drilling & Exploration Co., Inc., 1-A-26 Johnson, 26-17s-32e, flowed 75 bbl., 580-qt. shot 4,000-4,200 ft., pay 3,885 ft., T.D. 4,236 ft., P.B. 4,200 ft.
Monument, Lea County: Skelly 3 Monstate, 19-19s-36e, dry at 4,500 ft.

Illinois Fields

(Continued from Page 70)

Superior 22 H. C. Ford et al, NE SE SE 5-5s-14w, pumped 20 bbl. in 14 hr., 180-qt. shot 2,845-84 ft., Aux Vases 2,844 ft., T.D. 2,942 ft.
Tide Water 10 Bacon, NW NE SE 5-5s-14w, pumped 35 bbl. oil and 10 bbl. water, natural, Benoist 2,739-55 ft., Aux Vases sand 2,836-55 ft., T.D. 2,855 ft.
Parkersburg, Richland County: Ohio 2 E. A. Stevens, E½ NE SE 30-2n-14w, salt-water-disposal well, McClosky 3,145-62 ft., 3,166-75 ft., perf. and acidized, T.D. 3,175 ft.
Parkersburg, Edwards County: Nelson Dev. 1 F. Bierhaus, NW SW SW 32-2n-14w, flowed 350 bbl., perf. 3,095-3,101 ft., 2,500 gal. acid, McClosky 3,097-3,110 ft., T.D. 3,111 ft.
Patton, Wabash County: R. Young 1 Schafer, SE NE SE 28-1n-12w, dry at 1,720 ft., Waltersburg sand 1,643 ft., Tar Springs 1,693 ft.
Rural Hill, Hamilton County: Whisenant & Trenchard 7 J. D. Lockwood, NE SE NE 23-6s-5e, dry at 3,121 ft., Aux Vases sand 3,085 ft.
Ohio 2 M. Whitmore, NW SE SE 13-6s-5e, flowed 412 bbl., 60-qt. shot 3,130-52 ft., Aux Vases sand 3,128 ft., T.D. 3,152 ft.
Cameron Oil 1-B J. D. Lockwood, NW SW NW 24-6s-5e, pumped 160 bbl., 80-qt. shot 3,092-3,125 ft., Aux Vases sand 3,094 ft., T.D. 3,126 ft.
Shell 2-B J. F. Crabtree, SE NW NW 24-6s-5e, flowed 583 bbl., 20-qt. shot 3,104-18 ft., perf. 3,304-34 ft., 3,246-65 ft., 3,176-86 ft., 3,000 gal. acid in McClosky, reacidized 1,000 gal. in McClosky, Aux Vases 3,095-3,125 ft., Levias pay 3,180-86 ft., McClosky 3,257-62 ft., 3,305-30 ft., T.D. 3,349 ft.
Sailor Springs, Clay County: McBride 1 R. Palmer, NW NE SE 34-4n-7e, dry at 2,660 ft., Barlow 2,563 ft., Cypress sand 2,592 ft.
Ste. Marie, Jasper County: Lain O. & G. 2 O. Burton, E½ NW SW 5-5n-14w, pumped 250 bbl., 2,500 gal. acid, pay 2,826-43 ft., T.D. 2,864 ft.
Simms, Wayne County: Texas 1 Fuhrer, W½ NE SE 28-1s-6e, pumped 250 bbl., perf. 3,091-95 ft., 3,145-53 ft., 3,159-64 ft., 2,000 gal. acid, Aux Vases 3,019-50 ft., Levias 3,091-95 ft., McClosky 3,145-64 ft., 3,223-25 ft., T.D. 3,245 ft.
Stokes, White County: Pure and Carter 1 Henderson Martin, NE SW NE 18-6s-9e, pumped 751 bbl., 110-qt. shot 2,750-95 ft., Paint Creek sand 2,745 ft., T.D. 2,800 ft.

SOUTHWEST TEXAS

Wildcat Near Orange Grove Is Ready for Production Test

By F. L. SINGLETON

CORPUS CHRISTI, Tex.—Plymouth 1 J. J. Kuck, a wildcat 2 miles southeast of the Orange Grove townsite, Jim Wells County, was being prepared for a production test after an electrical survey and side-wall cores showed possible production. The well was drilled to a total depth of 5,828 ft., and 5½-in. casing was cemented at 5,209 ft. While slight showings were reported to have been logged near the bottom of the hole, and will probably be tested, the best shows were indicated by an electrical survey at 3,675-88 ft. Side-wall cores in this section recovered sand and sandy shale with a good oil odor. Location is in the Casa Blanca grant.

Seeligson Extensions Sought

Development of the Seeligson structure in the southern part of Jim Wells County continues to enlarge the potentiality of the field and attempts are now being made to open important extensions in two directions. Magnolia has spudded 28 Seeligson, 5,550 ft. northeast of production in the A. Ramirez Survey, while to the south Shell Oil Co., Inc., continues to drill ahead below 5,800 ft. in 1 Seeligson. Several drill-stem tests below 5,200 ft. have recovered pipe-line oil and extension of several hundred feet southward is assured.

At the present time there are six active operations. The rigs are operated by Magnolia, Shell, Sun, and Transwestern Oil Co. Seeligson was one of the first fields to be found along the Frio-Vicksburg trend, although it was not until the past year that any large-scale drilling program was started. Production is from several sands at intervals from 5,200 ft. to 6,500 ft., and at a recent date there were 28 producing wells, having a daily initial production of approximately 1,700 bbl.

Twenty-Eight Rigs at Agua Dulce-Stratton

Field development along the Agua Dulce-Stratton trend continues to be increased. There were seven new locations reported for the trend the past week, and a total of 26 wells were being drilled. This is believed to be the largest number of operations to be recorded for the area since oil production was opened on the flank of production in 1940.

Interest in the field is centered on Humble 1 King-Arryo, a semiwildcat located several hundred feet west of the field, in Jim Wells County.

Balcones Fault Line

In the Balcones fault line district, and located in Dimmit County, Wellington Oil Co. 2-B Sullivan, 11 miles northwest of Carrizo Springs, is being watched with interest as it drills ahead in shale below 1,964 ft. A 20-minute drill-stem test at 1,897-1,903 ft., tested 19 lb. working pressure and recovered 400 ft. of mud.

Wilcox Trend

Quintana 1 South Texas Syndicate located in the Washburn field, La Salle County, has been completed for an initial production of 422 bbl. daily through a ¼-in. choke. Total depth is 5,662 ft., and production is from perforated casing at 5,540-56 ft. Leasing and geophysical activity along the Wilcox trend continues to gain momentum and preparations are being made to drill several other wildcats.

Amerada Petroleum Corp. has a geophysical crew working east of the Berclair townsite, Goliad County, where Magnolia Petroleum Co. is preparing to start drilling operations on 1 Wilkinson, a 9,500-ft. test in the W. P. Miller Survey. In the meantime, Adams Oil & Gas Co. 1 Berck, 3 miles east of Yorktown, De Witt County, is scheduled to be spudded in the near future.

SOUTHWEST TEXAS COMPLETIONS

LOWER GULF COAST DISTRICT

Wildcats

Victoria County: J. G. Mayo 1 Woodhouse, dry, T.D. 6,007 ft.

Fields

Coleto Creek, Victoria County: Albert Plummer 4-C Terrell, 1,184,000 cu. ft. gas, 3 bbl. distillate, 5/32-in. choke, perf. casing 4,665-69 ft., T.D. 4,685 ft.

Fagan, Refugio County: P. R. Rutherford 4-C Fagan, 113 bbl., 7/64-in. choke, perf. casing 5,620-37 ft., T.D. 5,800 ft.

P. R. Rutherford 7-C Fagan, 115 bbl., 7/64-in. choke, perf. casing 5,638-45 ft., T.D. 5,662 ft.

Orange Grove, Jim Wells County: Atlantic 3 Schuenemann, 90 bbl., 5/32-in. choke, perf. casing 5,083-86 ft., T.D. 5,090 ft.

Petronilla, Nueces County: Stanolind 1-B Gillette, 155 bbl., ⅛-in. choke, perf. casing 6,936-67 ft., T.D. 7,350 ft.

Richard King, Nueces County: Southern Minerals 24-B King, 81 bbl., ⅛-in. choke, perf. casing 5,648-53 ft., T.D. 5,665 ft.

Seeligson, Jim Wells County: Magnolia 25 Seeligson, 166 bbl., 7/64-in. choke, perf. casing 5,992-94 ft., T.D. 7,017 ft.

Stratton, Nueces County: Southern Minerals 34 Stratton, 65 bbl., 3/32-in. choke, T.D. 6,655 ft.

LAREDO DISTRICT

Wildcats

Duval County: Sun 2 Cage, dry, T.D. 7,099 ft.

Gregg Sawyer 1 J. T. Dinn, dry, T.D. 2,954 ft.

J. L. Scott 1-A Saenz, dry, T.D. 725 ft.

La Salle County: Quintana 1 Naylor & Jones, dry, T.D. 5,582 ft.

McMullen County: Cities Service et al 4-B Lowe, dry, T.D. 1,913 ft.

Starr County: R. E. McClung 1 Simmonds, dry, T.D. 5,027 ft.

Zapata County: Ralph E. Fair 1 C. P. Flores, dry, T.D. 5,790 ft.

H. H. Coffield 1 Ramirez, dry, T.D. 2,587 ft.

Fields

Casa Blanca, Duval County: M. L. Massingill 5 Duval County Ranch Co., 66 bbl., pumping, sand 1,068-1,105 ft.

Colorado, Jim Hogg County: C. Andrade 5-G Trevino, 165 bbl., ¼-in. choke, sand 2,856-64 ft.

Driscoll, Duval County: Continental S-51-I Driscoll, 158 bbl., ¾-in. choke, perf. casing 3,361-81 ft., T.D. 3,382 ft.

East Cole, Duval County: Leach & Johnson 3 Benavides, 25 bbl., pumping, sand 1,738-42 ft.

H. Coquat 1 Lopez, 7 bbl., pumping, T.D. 1,705 ft.

Kreis, Duval County: W. C. McBride 1 Escapule, dry, T.D. 3,229 ft.

Rincon, Starr County: Continental 102-B Slick, 96 bbl., ⅛-in. choke, perf. casing 3,892-3,925 ft., T.D. 4,300 ft.

North Rincon, Starr County: Sun 3 Hall, 887,000 cu. ft. gas, ⅛-in. choke, perf. casing 4,607-10 ft., T.D. 5,123 ft.

Peters, Duval County: Homer Easterwood 1 W. R. Peters, dry, T.D. 2,741 ft.

Rincon, Starr County: Continental 37-A Slick, 44 bbl. 12 hr., pumping, perf. casing 4,014-20 ft., T.D. 4,310 ft.

McLean, Webb County: O. W. Killam 1 Marrs McLean, 288 bbl., ¼-in. choke, perf. casing 3,243-49 T.D. 4,016 ft.

SOUTH CENTRAL TEXAS

Wildcats

Travis County: Paul C. Yates 1 Noton, dry, T.D. 982 ft.

Paul C. Yates 2 Noton, dry, T.D. 985 ft.

Fields

Buchanan, Caldwell County: Joe Dixon, 11 bbl., pumping, T.D. 2,005 ft.

Floresville, Wilson County: H. J. Baker 2 Meyers, dry, T.D. 652 ft.

H. J. Baker 1 McDaniels, dry, T.D. 655 ft.

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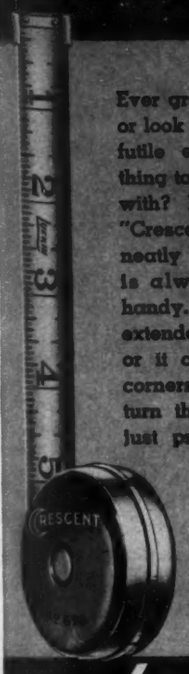

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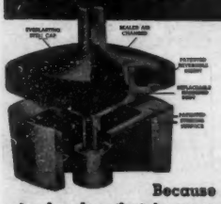

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Among the Drilling

ALLEN & MORRIS, San Antonio, Tex., received contract for a 5,300-ft. wildcat from the Shield Oil Co. The well is located about 10 miles southeast of Beeville in Bee County, Texas.

HARRY L. EDWARDS Drilling Co., Houston, Tex., is moving a rotary to Jefferson County, Texas, for Earl Hankamer et al 1 Robertson, a wildcat located about 5 miles north of the Stowell field. In the Cologne field, Victoria County, Texas, drilling was started for Jimmie Gray, while in the St. Charles field, Aransas County, Texas, an attempt is being made to extend production about 1 mile, as testing is under way at Continental 4 St. Charles Co.

DUNIGAN BROTHERS and Mike Brahaney, drilling contractors, Fort Worth, Tex., have completed rigging up standard tools and are bailing rotary mud to drill ahead at 1 Alice Henard, wildcat test 4 miles northwest of Plains, Yoakum County, Texas. Total depth is 5,136 ft. The test logged the following tops: anhydrite 2,370 ft., Yates 3,120 ft., brown lime 4,130 ft., San Andres lime 4,520 ft.

C. L. TISSUE Drilling Co., Inc., Houston, Tex., is attempting to open a new Wilcox sand pool for the Texas Gulf Coast as J. G. Mayo et al 1 Rother, a wildcat located near the town of Hallettsville, Lavaca County, Texas, is being tested. Total depth of the well is 9,104 ft., and sand with a showing of oil was logged around 8,000 ft. In the meantime a rotary was being moved to Fort Bend County, Texas, where a wildcat is to be drilled near the town of Sugarland.

GEORGE P. LIVERMORE, drilling contractor and operator, Midland, Tex., has made location for 1 J. E. Mabee, a wildcat test 2½ miles south of the south end of the Slaughter field in Terry County, Texas. The test is 150 ft. from the north and east lines of Section 20, Block 11-D, G.&M. Survey.

GLENN H. McCARTHY, Houston, Tex., is reported to have cemented casing for a production test on his 1 Englin, a north outpost to the newly opened Stowell field, Jefferson County, Texas. Bottom of the hole is approximately 8,900 ft., and the well is expected to test the discovery sand at 8,800 ft. Meanwhile, preparations are being made to spud his 1 Crawford and 1 Stewart, both located in the same field. Other operations are reported in the Magnolia and Bailey's Prairie areas in Montgomery and Brazoria counties, Texas.

GUYLE GREYNOLDS, drilling contractor, Abilene, Tex., at the latter part of the week was drilling slowly below 2,945 ft., after 50 ft. of oil and gas-saturated Ranger lime was encountered. The wildcat test, 1 Boatman, is being drilled for Mrs. A. K. Lawrie of New York and Thomasville, Ga., and is located 3½ miles south of Rising Star in northern Brown County, Texas. Drilling was scheduled to proceed through the Marble Falls to around 2,975 ft.

PATRICK & TYRELL, Houston, Tex., have moved a rotary to the Willis area, Montgomery County, Texas, where preparations are being made to deepen an old well recently drilled by Cockburn and Hargrove. The well was abandoned at 7,200 ft., and will be deepened to a total depth of 8,260 ft.

M. J. DELANEY, Dallas, Tex., drilling contractor, has been awarded the contract by the Texas Pacific Coal & Oil Co. and Seaboard Oil Corp., for the drilling of 1-D Midland farms. The 5,500-ft. wildcat is located in the C NW SW Section 46, Block 40, G.&M.M.B.&A. Sur., in southeastern Andrews County, Texas.

ROWAN Drilling Co., Houston, Tex., is drilling out cement preparatory to retesting Rowan & Nichols 1 W. H. Land, which opened gas-distillate production south of the Anahuac field, Chambers County, Texas. Several sands tested below 8,700 ft. showed gas or distillate.

BUTLER & HORNE Drilling Co., Abilene, Tex., drilling for itself, has started a semiwildcat test a mile north of the old Noodle Creek field, Jones County, West Central Texas, The test is scheduled to go to 3,200 ft. The same company is drilling another wildcat for itself about 6 miles north of the same field, in the S.P.R.R. Survey. It will be carried to 3,200 ft.

PARKER Drilling Co. of Tulsa and Houston, Tex., has been awarded a farmout on a 360-acre tract in the Keystone pool, Winkler County, West Texas, from the W. H. Dunning estate, Fort Worth, and is preparing to move on rig. Contract provides for the development of the tract to the greatest density permitted by government regulations.

WEIER Drilling Co., operating for itself, has encountered showings of oil and gas, in a semiwildcat test located a mile east of the Keystone pool, Winkler County, West Texas. At latest reports the test was drilling below 3,556 ft. with 250 ft. of oil in the hole. First showings were picked up at 3,483-95 ft.

OLSON Drilling Co., drilling jointly for Moore Exploration Co., logged shows of oil and gas in cores taken at 6,765-82 ft. in a wildcat test, 2-C Halff, Section 68, Block 1, I.&G.N. Survey, a mile west of the Shallow Noelke area, western Crockett County, Texas, and 3½ miles southeast of the Yates pool. This is the first deep test drilled on the east flank of the Yates structure. The showing is in the Ellenburger section of the Lower Ordovician.

JACK FRAZIER, Houston, Tex., is moving in rotary rig to drill a wildcat test for Paul G. Benedum, Houston, in the Grande Marie area, Iberia Parish, Louisiana Gulf Coast. Location is in 4-13s-7e.

C. C. GULGER, Houston, Tex., has contract to drill a 6,200-ft. wildcat test for John Messenger and associates in the James Wanhope Sur-

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vey, southern Cass County, 2 miles north of Lodi, Marion County, northeast Texas. The test will go to the Rodessa section of the Glen Rose horizon, which now is productive in the Jefferson field, Marion County, Texas. Rotary rig has been moved on, and drilling is under way.

NOAH DAVES, drilling contractor, Fort Worth, Tex., has started an 800-ft. shallow wildcat test for Oscar Donley in the F. Blodgett Sur., 2 miles west of Aledo, Parker County, Texas. Rotary rig is being moved in.

NELSON Drilling Co. obtained the maximum potential (3,000 bbl.) on its 1 Smyres, NE NE SW 36-19-6, Rice County, Kansas, when it was completed last week. Total depth of the hole was 3,351 ft.

HELMERICH & PAYNE, Tulsa, staked location for its 1 Wood, NW NW SW 19-25-1w, Kay County, Oklahoma, and was drilling below 1,850 ft. on its 1 Teichman, CEL SE NE 12-20-13, Barton County, Kansas.

J. E. TRIGG, 1105 First National Building, Oklahoma City, Okla., was rigging up rotary to drill 1 Bailey. SE SE SW 22-15-5, Lincoln County, Oklahoma.

MUSKEGON Development Co., Muskegon, Mich., has the contract to drill 3 Wamhoff, NE NW NE 18-3n-12w, for Regal Dutch Petroleum Co., in the Hopkins Township field of Allegan County, Michigan.

E. M. SHIELDS, Mount Pleasant, Mich., has the contract to drill Socony-Vacuum Oil Co. 1 Thoms, E½ NW SE 8-18n-4e, in Lincoln Township, Arenac County, Michigan. Contract depth is 2,000 ft.

J. C. ARTHURS, Mount Pleasant, Mich., has the contract for Freeman Oil Co. 1 Callahan, SE SW SE 25-18n-5w, Lincoln Township, Calhoun County, Michigan. The well is a 1,600-ft. test.

TURNER Drilling Co. has taken the contract to drill a test in Winterfield Township, Clare County, Michigan, for Cities Service Oil Co. The well will be known as Cities Service 3 W. H. Phares-3, W½ SE SE 27-18n-5w. The test was one of very few for which drilling permits were issued during the past week by the Department of Conservation.

BELMONT QUADRANGLE Drilling Corp. was drilling at 645 ft. on its test on the Mary E. Lynch farm in Andover Township, Allegany County, Pennsylvania.

BREHM Oil Co., Mount Pleasant, Mich., has the contract to drill Wallace Markle 1 Ackerman, SW SW SW 8-17n-14e, Bloomfield Township, Huron County, Michigan.

LUPHER Drilling Co., Mount Pleasant, Mich., has contracts to drill two wells for Pure Oil Co. in Pinora Township, Lake County, Michigan. They are Pure 3 Morrison, N½ SE NE 25-18n-11w, and Pure 4 Morrison, S½ NE NE 25-18n-11w. The company also will drill Louis Rose 1 C. Linder, N½ SE SE 25-18n-11w.

TWIN Drilling Co., Tulsa, has the contract to drill L. & S. Drilling Co. 1 Nicholson, NW SW NE 13-14n-6w, Broomfield Township, Isabella County, Michigan.

Crew of Fain Drilling Co., at Oklahoma City, Okla.: Tillmon Williams, tool pusher; Bird Briscoe, driller; Bill Cogdell, backup man; Bill Blakely, cathead man; C. M. (Shorty) Hughes, floorman, and Fred Noe, derrick man

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NORTH CENTRAL TEXAS

New Pools Showing at Tests Scattered Throughout District

By D. H. STORMONT

WICHITA FALLS, Tex. — Testing operations which are now under way at a wildcat in Foard County may result in the opening of a new oil-producing area for the county. The prospective pool opener is Bruce Sullivan 1 McCoy, J. M. Seaton Survey, 4 miles south of Crowell. No. 1 McCoy filled 750 ft. of oil in 11 hours following casing perforations opposite a section of the Bend conglomerate at 5,592-5,600 ft. Gas volume was estimated at 400,000 cu. ft. daily. At last report, operator was running tubing, after which he is expected to treat the test with acid.

Archer County wildcat, Continental 1 Ferguson, Section 1, S.P. Survey, 3 miles southwest of Holliday, was swabbing at the end of the week with no oil or gas reported. The previous week it was indicating the possibility of a new Caddo lime pool. Total depth is 4,521 ft. In drilling, the test logged shows at two levels in the lime. The first show was uncovered at 4,476-88 ft. and the second, from 4,511-21 ft. As the week ended, operator had swabbed down to within 200 ft. of bottom and was continuing to swab.

Continental and Roy Lee 1 H. Watson, A. Farris Survey, Clay County wildcat, 1½ miles north of the Henderson pool, is drilling plugs in preparation for production tests. Casing was set at 5,454 ft. for completion attempts after a 9-minute drill-stem test recovered 330 ft. of free oil and 150 ft. of oil-cut drilling mud at 5,455-84 ft.

NORTH TEXAS COMPLETIONS

Wildcats

Archer County: Sunray Oil Co. 1 C. W. Seibold, L. P. Jones Sur., A-939, dry at 5,120 ft., top Caddo 4,722 ft., top Ellenburger 5,030 ft.

Clay County: Shell 1 B. Williams, Sec. 63, J. H. Belcher Sur., 43 bbl. oil and 7 bbl. water in 24 hr., pumping, 11,000 gal. acid 4,477-88 ft., top Caddo 5,332 ft., top Ellenburger 5,772 ft., T.D. 5,874 ft.

Wichita County: George Proctor and W. B. Omohundro 1 H. C. Obenhause, M.E.P.&P. Sur., A-230, dry at 4,025 ft., top Ellenburger 3,906 ft.

Fields

Antelope, Clay County: Shell 8 J. G. Mullens, Sec. 2604, T.E.&L. Sur., 47 bbl. in 8 hr., est. 120 bbl., pay 3,180-95 ft.

Bryson, Jack County: Panhandle Ref. Co. 1 R. E. Chadwick, Mathew Mabin Sur., A-416, dry at 3,453 ft.

Panhandle Ref. Co. 4-B D. F. Shoun, Mathew Mabin Sur., A-416, dry at 3,115 ft.

Coleman, Archer County: R. H. Hawn 2 A. B. Edwards, Sec. 33, Lula P. Hunt subd., 127 bbl. oil and 2 per cent water in 20 hr., pumping, est. 135 bbl., top Caddo 5,230 ft., top Mississippi 5,692 ft., top Ellenburger 5,767 ft., 200 gal. acid 5,234-55 ft., T.D. 5,775 ft.

Shell 8-A W. M. Coleman, Sec. 74, Lot 3, A.T.N.C.L. Sur., 326 bbl. in 6 hr., ¾-in. choke, est. 850 bbl., top Caddo 4,995 ft., 2,000 gal. acid 5,046-58 ft., T.D. 5,127 ft.

Coleman, Clay County: Shell 1-B E. D. Coleman, Sec. 25, Calhoun C.S.L. Sur., A-80, 113 bbl. oil and 3 bbl. water in 6 hr., 12/64-in. choke, est. 300 bbl., 2,000 gal. acid 6,389-6,464 ft., top Caddo 5,906 ft., T.D. 6,478 ft.

Cooke, Cooke County: Trumpter Petroleum Corp. 16-A C. E. Stacey, J. Clark Sur., A-194,, 18 bbl. in 24 hr., pumping, pay 749-58 ft.

Fargo, Wilbarger County: Humble 3 V. K. McCaleb, Sec. 34, Blk. 15, H.&T.C. Sur., 96 bbl. in 8 hr., pumping, est. 175 bbl., 40-qt. shot 4,035-45 ft., T.D. 4,050 ft.

Harrold, Wilbarger County: Big Six Oil Co. 2 Ed Schloffke, Sec. 3, Blk. 14, H.&T.C. Sur., 114 bbl. in 3 hr., ¾-in. choke, est. 325 bbl., pay 3,245-70 ft., T.D. 3,294 ft.

Jack, Jack County: Anderson-Prichard 1 Mary Hoefle, A. James Sur., A-318, 218 bbl. in 3 hr., ⅝-in. choke, est. 800 bbl., 2,000 gal. acid 4,846-86 ft., top Caddo 4,850 ft., T.D. 4,886 ft.

K.M.A., Archer County: C. H. Staley 24 Anna Mangold, Sec. 30, Castleberry Sur., A-681, dry at 1,839 ft.

K.M.A., Wichita County: Hanlon-Buchanan 31-G Fassett & Tuttle, S.A.&M.G. Sur., A-31, 61 bbl. in 3 hr., ¾-in. choke, est. 325 bbl., top K.M.A. 3,881 ft., 110-qt. shot 4,029-72 ft., T.D. 4,077 ft.

Hammon, Hanlon-Buchanan 48 Fassett & Tuttle, Sec. 1, E.T. Sur., A-76, 70 bbl. in 3 hr., ¾-in choke, est. 375 bbl., top K.M.A. 3,791 ft., 150-qt. shot 3,942-74 ft., T.D. 3,977 ft.

G. B. Ray 2-S Sue Mitchell, Sec. 18, P. Castleberry Sur., A-36, dry at 641 ft.

Murchison & Wynne 3 Big Wichita River Bed, Wichita River Bed Sur., 183 bbl. in 3 hr., ¾-in. choke, est. 950 bbl., top Ellenburger 4,184 ft., 1,500 gal. acid 3,712-37 ft., T.D. 4,257 ft.

H. D. Egger 1 D. R. Preston, Sec. 20, Blk. 7, H.& T.C. Sur., 38 bbl. in 1 hr., ½-in. choke, est. 550 bbl., 270-qt. shot 3,835-3,920 ft., T.D. 3,936 ft.

H. D. Egger 2 D. R. Preston, Sec. 20, Blk. 7, H.& T.C. Sur., 46 bbl. in 1 hr., ½-in. choke, est. 850 bbl., 260-qt. shot 3,851-3,939 ft.

Shell and Phillips 20-A D. R. Preston, Sec. 20, Blk. 7, H.&T.C. Sur., 101 bbl. in 3 hr., ¾-in. choke, est. 425 bbl., top K.M.A. 3,824 ft., 120-qt. shot 3,924-94 ft., T.D. 3,996 ft.

P. G. Lake 8 M. E. Reilley, Floyd Jordan Sur., A-167, 62 bbl. in 3 hr., est. 375 bbl., top Ellenburger 4,453 ft., top K.M.A. 3,800 ft., pay 3,900-4,460 ft.

Perry Browning 8 W. L. Warren, Sec. 32, K.W.V. F.L. Sur., 40 bbl. in 24 hr., pumping, 45-qt. shot 1,600-42 ft., T.D. 1,781 ft.

Coppock & Coleman 22 W. L. Warren, Sec. 32, K.W. V.F.L. Sur., 84 bbl. in 24 hr., pumping, pay 1,748-67 ft.

C. W. Clark 7 C. J. Simpson, Sec. 32, K.W.V.F.L. Sur., 100 bbl. in 24 hr., pumping, pay 1,760-72 ft.

Shell and Phillips 42 N. C. Griffin, F. Jordan Sur., A-167, 264 bbl. in 3 hr., ¾-in. choke, est. 1,450 bbl., top K.M.A. 3,792 ft., top Ellenburger 4,355 ft., pay 3,878-88 ft., T.D. 4,616 ft.

Throckmorton, Throckmorton County: Burk Royalty Co. 20 A. M. Housley, Sec. 28, Comanche Indian Reservation Sur., 24 bbl. in 24 hr., pumping, pay 681-700 ft.

Burk Royalty Co. 21 A. M. Housley, Sec. 28, Comanche Indian Reservation Sur., 30 bbl. in 24 hr., pumping, pay 658-68 ft., T.D. 675 ft.

J. B. Putman 4 J. B. Putman, Sec. 10, Comanche Indian Reservation Sur., 26 bbl. in 24 hr., pumping, pay 650-71 ft., T.D. 673 ft.

J. B. Putman 6 J. B. Putman, Sec. 10, Comanche Indian Reservation Sur., 52 bbl. in 24 hr., pumping, pay 648-76 ft.

W. Neustadt 4 W. McKeichen, H. Holcomb Sur., 20 bbl. in 24 hr., pumping, pay 750-53 ft.

Wilbarger, Wilbarger County: Ross Robertson 1 L. Webb, Sec. 8, H.&T.C. Sur., Blk. 5, 100 bbl. in 24 hr., pumping, pay 2,410-13 ft.

Miscellaneous Fields

Archer County: William Clark 1 H. E. Wright, Sec. 2435, T.E.&L. Sur., dry at 1,460 ft.

Lloyd Snider 1 S. E. Pigg, Sec. 22, Thomas Toby Sur., A-643, dry at 740 ft.

Guy J. Schall 1 J. E. Bridwell, Sec. 2418, T.E.&L. Sur., dry at 1,352 ft.

J. T. Hedges 22-C Harvey Harmel, Sec. 2401, T.E. &L. Sur., 8 bbl. in 24 hr., pumping, 36-qt. shot 1,261-72 ft., T.D. 1,273 ft.

Clay County: Akin, Dimock & Costley 1 First Texas Joint Stock Land Bank, Sec. 9, Thornberry subd., 25 bbl. oil and 5 bbl. water in 24 hr., pumping, pay 1,168-74 ft., T.D. 1,213 ft.

Houston Bowers 5 S. W. Rice, Sec. 14, Thornberry subd., 18 bbl. in 24 hr., pumping, pay 1,100-12 ft.

Bridwell Oil Co. 2 S. J. Schumake, Sec. 12, Thornberry subd., 22 bbl. oil and 35 bbl. water in 24 hr., pumping, pay 1,149-57 ft.

Bridwell Oil Co. 14 R. E. L. Sancer, Sec. 1, G.C.& S.F. Sur., A-794, 45 bbl. in 24 hr., pumping, pay 1,132-50 ft.

Bridwell Oil Co. 15 R. E. L. Sancer, Sec. 1, G.C.& S.F. Sur., A-794, 60 bbl. in 24 hr., pumping, pay 1,105-27 ft.

Johnson & Kouri 14 C. T. Taylor, Sec. 56, Bacon's subd., 40 bbl. in 24 hr., pumping, pay 1,137-44 ft.

F. H. Gohlke 4 E. B. Bunnenburg, Sec. 33, Pratts pasture subd., dry at 1,327 ft.

Fain-McGaha Oil Corp. 1 R. E. Huff, J. Bradshaw Sur., A-17, dry at 1,231 ft.

Wichita County: Underwood Oil Co. 1-A J. H. Meyer, George Wheelright Sur., A-320, 2 bbl. in 24 hr., pumping, pay 1,203-16 ft., T.D. 1,218 ft.

S. H. Walton 26 R. J. Coleman, Sec. 23, H.&G.N. Sur., A-141, dry at 410 ft.

A. C. Yates 1 Ross Porter, Sec. 32, H.&T.C. Sur., Blk. 5, dry at 603 ft.

C. F. Schramm 4 Albert Daume, Sec. 1, S.P. Sur., 10 bbl. in 24 hr., pumping, pay 678-82 ft.

C. F. Schramm 5 Fred Daume, Sec. 1, S.P. Sur., dry at 779 ft.

Young County: Cable Oil Co. 49 S. E. Snider, Robert Wilson Sur., A-1267, 9 bbl. in 24 hr., pumping, pay 579-92 ft.

Worth Oil Co. 11 L. A. Snider, Robert Wilson Sur., A-1276, 3 bbl. in 24 hr., pumping, pay 549-56 ft.

H. B. Street 12-C J. W. Jack, Lot 23, Young C.S.L. Sur., A-1284, 6 bbl. in 24 hr., pumping, pay 650-66 ft.

Worth Oil Co. 1 Jennie Johnson, J. R. Cooke Sur., A-1405, dry at 600 ft.

F. E. Butler 1 J. L. Boone, Sec. 1, B.B.B.&C. Sur., A-34, dry at 601 ft.

Cosden Petroleum Corp. 1-C M. E. Martin, R. M. Burton Sur., A-8, 47 bbl. in 24 hr., ½-in. choke, est. 200 bbl., top Caddo 3,849 ft., Marble Falls 4,230 ft., 5,000 gal. acid 4,010-20 ft., T.D. 4,296 ft.

Falcon Co. 3 B. W. King, L. A. Johnson Sur., A-2260, dry at 3,915 ft.

West Central Texas Wildcat Showing

FORT WORTH, Tex. — Three wildcats, one in Shackelford County, one in Taylor County, and a third in Brown County gave indication last week of opening new oil-producing areas in their respective counties. The new Shackelford County pool is being considered at R. H. Roark 1-B Elliott, 7 miles northeast of Albany. On last official Railroad Commission gage, the test flowed 107 bbl. of oil, 10 per cent water, in 24 hours. Oil was coming from 2,902-04 ft. No. 1-B Elliott was drilled to 4,395 ft. but was plugged back and shot at 2,904 ft. Location is in the SW¼ Section 9, L.A.L. Survey.

WEST CENTRAL TEXAS COMPLETIONS

Wildcats

Brown County: H. P. Evans 1 R. Y. Starkey, Sec. H, C. Walker Sur., dry at 1,240 ft.

Coleman County: Anzac Oil Corp. 1 Ben Yarbrough, Samuel Crooks Sur. 736, dry at 2,367 ft.

Comanche County: Semiwildcat, O. L. Stutenroth 1-A Pearl Kirk, John Tabot Sur. A-941, dry at 2,910 ft.

Shackelford County: Owenwood Pool No. 3, 1 W. H. Green, Sec. 55, T.&P. Sur., Blk. 11, dry at 1,227 ft.

Taylor County: Lewis Production Co. 1 J. M. Hart, D. B. Corley Sur. 4, dry at 2,900 ft.

J. C. Hunter 1 T. C. Anderson, Sec. 8, L.A.L. Sur., 19 bbl. oil and 75 bbl. water in 24 hr., pumping, top Palo Pinto 3,358 ft., 2,000 gal. acid 3,363-93 ft.

Fields

Akard, Jones County: Hedrick Oil Co. 4-D Dorothy Akard, Guadalupe Martinez Sur. 137, 43 bbl. in 8 hr., est. 100 bbl., pay 2,123-36 ft., T.D. 3,138 ft.

Jim Ned, Coleman County: Lewis Production Co. 1 C. M. Greer, Lot 2, Hiram Kegan Sur. 520, 8,080,000 cu. ft. gas, pay 3,475-96 ft., T.D. 3,971 ft.

Anderson-Prichard 1 Bettie J. Mathews, Lot 2, Hiram Kegan Sur. 520, 189 bbl. in 19 hr., 30-qt. shot 3,893-3,914 ft., T.D. 3,934 ft.

Nail, Shackelford County: Hickok & Reynolds 17-A J. H. Nail, Sec. 124, E. T. Sur., 69 bbl. in 24 hr., pumping, pay 1,410-12 ft.

Novice, Coleman County: States Oil Corp. 3 C. F. Sprinkles, Sec. 46, G.H.&H. Sur., Blk. 2, 66 bbl. in 24 hr., 15-qt. shot 3,552-70 ft.

States Oil Corp. 2-B Frank Hudson, Sec. 22, T.&N.O. Sur., Blk. 2, 71 bbl. in 24 hr., 1,250,000 cu. ft. gas, pay 3,520-27 ft.

Salt Creek, Brown County: Central Texas Gas Co. 1 J. H. Fry, M. T. Key Sur. 80, 1,540,000 cu. ft. gas, 7,000 gal. acid 1,686-1,832 ft.

Strawn, Palo Pinto County: Palo Pinto Oil & Gas Corp. 28 Strawn Coal Co., Henry Bird Sur. A-26, dry at 3,989 ft., top Ellenburger 3,785 ft.

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REGISTERED PROFESSIONAL ENGINEERS

CANADIAN FIELDS

North Turner Valley Wells Improve in New Area

By VICTOR LAURISTON

CHATHAM, Ont.—Further extension of the North Turner Valley producing area was indicated last week by Atlas-British Dominion 2, LSD 4, 17-21-3w5, which is below 8,477 ft., after getting the Madison at 8,285 ft., with the upper porous zone of the lime showing satisfactory porosity. This test is ¾ mile north of Major 4, now the most northerly producer.

Large North Producer

In North Turner Valley, Major Oil Investments 4, LSD 8, 8-21-3w5, most northerly completion, finished at 7,836 ft. with Madison lime at 7,415 ft., has repaired broken tubing and is acidizing and testing. The well blew wild for 7 hours after initial acidizing, flowing at a rate of 130 bbl. an hour, compared with initial natural flow of 18 bbl. an hour. Reservoir pressure is estimated at 3,000 lb. Production is expected to exceed the previous most northerly producer, Major 3, ¼ mile south, which had allowable of 1,051 bbl. daily for January.

Alberta Production

Average daily production in Alberta for the week ended January 26 was 27,554 bbl. of which 26,451 bbl. were crude oil—this compares with an average of 27,913 bbl. in the preceding week and 26,209 bbl. in like week a year ago.

Foothills Well Testing

Foothills Oil & Gas 10, LSD 2, 4-21-3w5, which encountered lime conditions unusual in North Turner Valley, is testing at 8,069 ft. after drilling Madison lime from 6,619 ft. It failed to reach the black lime, usually encountered about 450 ft. in, but drilled six successive porous zones instead of the normal two. It may later be deepened to the black lime. The lime thickness, 1,050 ft., is the greatest drilled in Turner Valley since McLeod 4 in the old Central field, which drilled 1,057 ft. of limestone, ending in the Banff shales.

As a result of drilling rights granted to other companies, acreage of Home Oil Co. in North Turner Valley will be tested by six wells. The company holds 11,200 acres extending in a nearly continuous block for 13½ miles north and south. Home Oil 2, at south end, has been a consistently large producer for about 2 years, and seven of the company's eight other wells are substantial producers. The six new tests will cover a distance of 7 miles northwest of Home 2.

TURNER VALLEY LIME TESTS

North Turner Valley: Home Oil 9, LSD 9, 15-20-3w5, T.D. 8,478 ft., Madison at 7,974 ft., completing tests.

West Central section: Drillers & Producers 3, LSD 3, 7-19-2w5, finished at 8,152 ft., Madison at 7,701 ft., acidizing and testing.

Alberta Pacific Royalties 1, LSD 14, 6-19-2w5, T.D. 8,325 ft., Madison at 7,872 ft., finished sidetracking and started acidizing.

NEW TESTS STARTING

North Turner Valley: Lion-Davies 1, LSD 3, 14-22-4w5, working on cellar.

Northwest-Hudson's Bay

Northwest Co., subsidiary of Imperial Oil, which has been systematically testing the extreme southwest Turner Valley, has shifted its activity to North Turner Valley. Northwest-Hudson's Bay 7 has been located in LSD 14, 8-21-3w5, some two locations north and two west of Major 4 big producer.

In the Tilley area, eastern Alberta, Northwest Co. 1, LSD 1, 7-17-2w4, is shut down at 3,209 ft. after encountering an oil show about 40 ft. in lime formation. Early tests indicate the well is much more promising than Northwest 1 Brooks, 15 miles to the northwest, where only a small oil show, with gas, was met.

Bruderheim Prospect

On the Bruderheim structure, 35 miles northeast of Edmonton, Clonmel Petroleums 1, LSD 4, 32-55-20w4, has cemented casing at 200 ft. after spudding with light portable, and is waiting for rotary outfit from Turner Valley. Test is the first of a series of four wells undertaken by Toronto interests after geological and geophysical surveys which indicated an extensive dome with three oil and gas prospects, one at 2,000 ft. and two others around 3,000 ft., just above the lime and in that formation.

Test for Taber Field

In the Taber field, southern Alberta, Noble Drilling Co. 1, 33-8-17w4, has spudded and is below 100 ft. Location is 7½ miles southwest of Taber. Officers of the company are: President, C. E. Baldwin, Calgary; vice president, Charles Sartoris, Blairmore; secretary-treasurer, A. Dahm; managing director, Carl Enoch, Taber.

MISSISSIPPI AND SOUTHEAST

Tinsley Nearly Drilled Up; Southeast Wildcats Start

By R. MARNE SANFORD

JACKSON, Miss.—The Tinsley field was close to a complete shutdown of drilling operations last week. Only a few well completions have been reported for the field during the past month, and this last week saw the completion of not a single well in the field. Most of the drilling rigs are now stacked throughout the field.

It was thought several weeks ago, as activity started to decline, that possibly a new theater of operations was opening up in the new Pickens-Sharpsburg field discovery in Madison County.

However, 2 weeks ago very discouraging results were obtained on initial tests at Phillips 1 Gene, a southeast offset to the discovery well of the field. Faulty completion was believed the cause of the salt-water trouble, but further testing the past week has netted little better results.

The Phillips operation is the second for the field and an offset to the Morgan 1 Johnny, large discovery well from the Eutaw zone. The Phillips well, located in SW SE 4-11n-3e, perforated casing from 4,849-52 ft. and ran 2-in. tubing to 4,854 ft. The well was washed in with clear water and swabbed for 14 hours, after which the fluid level stood at 2,900 ft. A grindout of the swabbings showed 98 per cent salt water and only 2 per cent oil.

The well was shut in over night and the following morning the pressures registered 35 lb. on tubing and 140 lb. on casing. The swab was run three times and recovered an average of 40 per cent oil and 60 per cent salt water. An attempt to squeeze off the perforations was made with 40 sacks of cement, however, only 20 sacks would go into the formation. The holes were sealed, however, and it will be perforated at a higher level.

In Amite County Shell Oil Co., Inc., has recorded 5,212 acres of leases in Townships 3 and 4n-2e. Shell paid a bonus of $4,855 for 5-year lease on the block, with $2,606 annual rentals. The deal calls for a well to be started by December 29 of 1942, and already Shell is working the area with two different geophysical devices.

Alabama and Mississippi

Two new wildcats were staked the past week in the southeastern area, one each in Mississippi and Alabama. The Mississippi location was in Harrison County and is Humble Oil & Refining Co. 1 L. N. Dantzler Lumber Co., located in NW E¼ 33-4s-11w. The Alabama wildcat is in Greene County and is W. E. Sistrunk 1 Will Steele, located in SE NW NW 17-23n-1w.

MISSISSIPPI COMPLETIONS

Wildcats

Hinds County: E. F. Neely 1 Lerew, NW NW NW 15-5n-1e, no tops furnished, dry at 2,326 ft.

Oktibbeha County: John Allen 1 W. C. Howell, NE SW 2-19n-13e, abandoned location.

Fields

No completions in Tinsley field this week.

LEGAL

OIL AND GAS LEASE

United States Department of Agriculture, Forest Service, Muskegon, Michigan, January 30, 1942. Sealed bids in triplicate will be received until 10:00 A.M. Eastern Standard Time, March 9, 1942, and then publicly opened, offering bonus for operating rights in connection with gas and oil leases on land located in the State of Michigan, Oceana County, Greenwood Township, T 13 N, R 15 West, Michigan Meridian, Section 30: S½ NW; NW SW. Award of lease will be made only to bidder who can show sufficient experience and financial resources and prove citizenship. Interested parties may obtain bid documents, lease forms and operating regulations from the Forest Supervisor, Forest Service, Muskegon, Michigan.

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CRUDE-OIL PRICES . . .

OKLAHOMA AND KANSAS GRAVITY TABLES

	1	2	3	4	5	6	7
Below 21	....	....	....	....	$.85	$.75	....
21-21.9	....	....	....	....	.87	.78	....
22-22.9	....	....	....	....	.89	.81	....
23-23.9	....	....	....	....	.91	.84	....
24-24.9	....	....	....	....	.93	.87	....
Below 25	$.93	....	....	$.86	....	....	....
25-25.9	.95	.95	....	.88	.95	.90	....
26-26.9	.97	.97	....	.90	.97	.93	....
27-27.9	.99	.99	....	.92	.99	.96	....
28-28.9	1.01	1.01	1.01	.94	1.01	.99	....
29-29.9	1.03	1.03	1.03	.96	1.03	1.02	....
30-30.9	1.05	1.05	1.05	.98	1.05	1.05	$1.05
31-31.9	1.07	1.07	1.07	1.00	1.07	1.07	1.07
32-32.9	1.09	1.09	1.09	1.02	1.09	1.09	1.09
33-33.9	1.11	1.11	1.11	1.04	1.11	1.11	1.11
34-34.9	1.13	1.13	1.13	1.06	1.13	1.13	1.13
35-35.9	1.15	1.15	1.15	1.08	1.15	1.15	1.15
36-36.9	1.17	1.17	1.17	1.10	1.17	1.17	1.17
37-37.9	1.19	1.19	1.19	1.12	1.19	1.19	1.19
38-38.9	1.21	1.21	1.21	1.14	1.21	1.21	1.21
39-39.9	1.23	1.23	1.23	1.16	1.23	1.23	1.23
40 and above	1.25	1.25	1.25	1.18	1.25	1.25	1.25

OKLAHOMA AND KANSAS TABLE EXPLANATION

COLUMN (1) MID-CONTINENT GRADES:
Pure Oil Co., 5-20-41.
Gulf Oil Corp., 5-20-41.
Skelly Oil Co. (Kansas only), 5-19-41.
H. F. Wilcox Oil & Gas Co., 5-20-41.

COLUMN (2) MID-CONTINENT GRADES:
White Eagle Oil Purchasing Co., Inc., 5-19-41, Kansas only.
Sinclair Prairie Oil Marketing Co., 5-20-41.

COLUMN (3) MID-CONTINENT GRADES:
Continental Oil Co., 5-19-41.
Phillips Petroleum Co., 5-19-41.
Tide Water Associated Oil Co., 5-20-41.

COLUMN (4) JACKSON, TILLMAN COUNTIES:
Gulf Oil Corp., 5-20-41.

COLUMN (5) MID-CONTINENT GRADES:
Standard Oil Co., (Indiana), 5-20-41.
National Refining Co., 5-20-41.

COLUMN (6) MID-CONTINENT GRADES:
Magnolia Petroleum Co., 5-21-41.
Shell Oil Co., Inc., 5-19-41.
Shell, in Carter County, 12-5-41.
Ben Franklin Refining Co., 12-4-41.
Carter Oil Co. (Oklahoma only), 5-19-41.

COLUMN (7) OKLAHOMA:
Champlin Refining Co., 5-20-41.

OKLAHOMA FLAT PRICE

Cumberland	$1.14
Pure Oil Co., 9-4-41.	

MIDDLE WEST FLAT PRICES

Illinois and Indiana

Ohio Oil Co.:	
Illinois basin, 5-21-41	$1.37
Eastern Illinois, 5-21-41	1.22
Western Indiana, 5-21-41	1.22
Magnolia Petroleum Co.:	
Illinois basin, 5-21-41	$1.37
Carter Oil Co.:	
Illinois (Louden), 5-21-41	$1.37
Sohio Corp.:	
Illinois basin, 5-21-41	$1.37
Texas Co.:	
Illinois basin, 5-21-41	$1.37
Gulf Refining Co.:	
Illinois basin, 5-21-41	$1.37

Michigan

Simrall Corp., 5-27-41:	
Greendale, Porter, Vernon, Crystal, and Wise	$1.44
Buckeye, Bentley, Edenville, Beaverton, and Monitor (sweet)	1.42
Freeman, Redding, Lincoln, and Winterfield	1.39
Hamilton-Grout	1.29
West Branch-Arenac	1.24
Sohio Corp., 5-1-41:	
Bloomingdale-Columbia	$1.38
Mid-West Refineries, Inc., 5-1-41:	
Kent County	$1.38
Pure Oil Co., 5-27-41:	
Sherman	$1.39
Midland (Midland County)	$1.44

EASTERN STATES

Pennsylvania and Ohio

South Penn Oil Co.:	
National lines, 8-23-41	$2.75
Southwest Penn, 8-23-41	2.40
Eureka lines, 8-23-41	2.34
Corning grade, 5-27-41	1.31
Tide Water Associated Oil Co.:	
Bradford, 8-23-41	2.75
Allegany, N. Y., 8-23-41	2.75
Pennzoil Co.:	
Group A, 8-23-41	2.68
Group B, 8-23-41	2.67
Group C, 8-23-41	2.66
Group D, 8-23-41	2.65
Group E, 8-23-41	2.63
Quaker State Oil Refining Corp:	
In Buckeye lines, 8-23-41	2.30
In Eureka lines, 8-23-41	2.34

West Virginia

Pure Oil Co.:	
Cabin and Kelly Creek, 8-23-41	$2.34

LOUISIANA AND SOUTHERN ARKANSAS GRAVITY TABLE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Below 18	....	....	....	....	....	....	....	....	....	....	....	....	$.94	....	....	....	....	....
18-18.9	....	....	....	....	....	....	....	....	....	....	....	....	.96	....	....	....	....	....
19-19.9	....	....	....	....	....	....	....	....	....	....	....	....	.98	....	....	....	....	....
Below 20	....	....	....	....	....	....	....	$1.06	....	$.94	$.99	$.89	....	....	$1.06	....	....	....
20-20.9	....	....	....	....	....	....	....	1.08	....	.96	1.01	.91	1.00	....	1.08	....	....	....
Below 21	$.68	....	....	$.90	....	....	....	....	....	....	....	....	....	$.90	....	....	....	....
21-21.9	.70	....	....	.92	....	....	....	1.10	....	.98	1.03	.93	1.02	.92	1.10	....	....	....
22-22.9	.72	....	....	.94	....	....	....	1.12	....	1.00	1.05	.95	1.05	.94	1.12	....	....	....
23-23.9	.74	....	....	.96	....	....	....	1.14	....	1.02	1.07	.97	1.08	.96	1.14	....	....	....
24-24.9	.76	....	....	.98	....	....	....	1.16	....	1.04	1.09	.99	1.11	.98	1.16	....	....	....
Below 25	....	$.86	$.98	....	....	$.88	....	....	....	....	....	....	....	....	....	....	....	....
25-25.9	.78	.88	1.00	1.00	....	.90	....	1.18	....	1.06	1.11	1.01	1.14	1.00	1.18	....	....	....
26-26.9	.80	.90	1.02	1.02	....	.92	....	1.20	....	1.08	1.13	1.03	1.17	1.02	1.20	....	....	....
27-27.9	.82	.92	1.04	1.04	....	.94	....	1.22	....	1.10	1.15	1.05	1.19	1.04	1.22	....	....	....
28-28.9	.84	.94	1.06	1.06	....	.96	....	1.24	....	1.12	1.17	1.07	1.21	1.06	....	$1.14	$1.06	....
29-29.9	.86	.96	1.08	1.08	....	.98	....	1.26	....	1.14	1.19	1.09	1.23	1.08	....	1.16	1.08	....
30-30.9	.88	.98	1.10	1.10	$1.26	1.00	....	1.28	....	1.16	1.21	1.11	1.25	1.10	....	1.18	1.10	$1.05
31-31.9	.90	1.00	1.12	1.12	1.28	1.02	....	1.30	$1.07	1.18	1.23	1.13	1.27	1.12	....	1.20	1.12	1.07
32-32.9	.92	1.02	1.14	1.14	1.30	1.04	....	1.32	1.09	1.20	1.25	1.15	1.29	1.14	....	1.22	1.14	1.09
33-33.9	.94	1.04	1.16	1.16	1.32	1.06	....	1.34	1.11	1.22	1.27	1.17	1.31	1.16	....	1.24	1.16	1.11
34-34.9	.96	1.06	1.18	1.18	1.34	1.08	....	1.36	1.13	1.24	1.29	1.19	1.33	1.18	....	1.26	1.18	1.13
35-35.9	.98	1.08	1.20	1.20	1.36	1.10	....	....	1.15	....	....	....	....	1.20	....	1.28	1.20	1.15
Below 36	....	....	....	....	....	....	$1.07	....	....	....	....	....	....	....	....	....	....	....
36-36.9	1.00	1.10	1.22	1.22	....	1.12	1.09	....	1.17	....	....	....	....	1.22	....	1.30	1.22	1.17
37-37.9	1.02	1.12	1.24	1.24	....	1.14	1.11	....	1.19	....	....	....	....	....	....	....	....	1.19
38-38.9	1.04	1.14	1.26	1.26	....	1.16	1.13	....	1.21	....	....	....	....	....	....	....	....	1.21
39-39.9	1.06	1.16	1.28	1.28	....	1.18	1.15	....	1.23	....	....	....	....	....	....	....	....	1.23
40 & above	1.08	1.18	1.30	1.30	....	1.20	1.17	....	1.25	....	....	....	....	....	....	....	....	1.25

LOUISIANA AND SOUTHERN ARKANSAS TABLE EXPLANATION

Standard Oil Co. of Louisiana, 5-22-41.
COLUMN (1) applies to Atlanta, Buckner, Magnolia, Schuler (Jones sand), Village and Lewisville fields.
COLUMN (2) applies to De Soto, Sabine, Fouke, Homer, Miller County, Sugar Creek and Nebo.
COLUMN (3) applies to Bunkie, Eola, Olla and South Olla.
COLUMN (4) applies to Bayou Mallet, Choctaw, Darrow, Jeanerette, Lirette, North Crowley, South Crowley, Port Barre, Potash, Roanoke, St. Martinville and Port Allen.
COLUMN (5) applies to University (Baton Rouge).
COLUMN (6) applies to Cotton Valley crude, Rodessa and Shreveport (Cross Lake); also Anse La Butte, effective 8-1-41, starting at 80 cents for below 21°, also, to Caddo effective 10-15-41.
Continental Oil Co., 5-21-41.
COLUMN (7) applies to Abbeville, Louisiana.
Continental Oil Co., 5-21-41.
Stanolind Oil & Gas Co., 5-21-41.
COLUMN (8) applies to East and West Hackberry.
COLUMN (9) applies to Caddo Parish, effective 10-15-41.
COLUMN (9) applies to Evangeline, Acadia Parish.
Lion Oil Refining Co., 5-22-41.
COLUMN (1) applies to Reynolds lime, Jones sand, Schuler, Ark.
COLUMN (2) applies to El Dorado, West and South Rainbow fields, Snow Hill and Schuler-Morgan sand.
Placid Oil Co., 5-22-41.
COLUMN (3) applies to Olla.
COLUMN (2) applies to Nebo field.
Shell Oil Co., Inc., 5-20-41.
COLUMN (10) applies to Roanoke, Chalkley.
COLUMN (11) applies to Iowa, Black Bayou, White Castle.
COLUMN (12) applies to Gibson, South Houma, Hester, West Lake Verret.
Magnolia Petroleum Co., 5-21-41.
COLUMN (13) applies to Lockport, Cameron Meadows, and West Gueydan, La.
COLUMN (6) applies to Haynesville, Cotton Valley, Rodessa, La., and Miller County, Arkansas.
Phillips Petroleum Co., 3-29-41.
COLUMN (1), Schuler (Jones sand), except schedule starts at 76 cents for below 25° gravity.
Gulf Refining Co., 5-21-41.
COLUMN (9), Jennings.
COLUMN (8), Edgerly, Starks, Vinton, East Hackberry, Cameron Meadows, Leesville.
COLUMN (16) applies to Grand Bay, Quarantine Bay, Timbalier Bay and West Bay, except schedule starts at $1.12 for below 28° gravity.
COLUMN (6) applies to Caddo, Homer, Bull Bayou, Crichton, De Soto, Haynesville and El Dorado.
Pure Oil Co. 4-22-41.
COLUMN (14) applies to Gueydan crude.
COLUMN (6), Caddo, Homer, Haynesville, Bull Bayou, Crichton, De Soto, and El Dorado.
Texas Co., 5-21-41.
COLUMN (6) applies to North Louisiana.
COLUMNS (15) and (16), Bay St. Elaine, Caillou Island, Iberia, Lake Barre, Lake Pelto, Leesville, Port Barre. (Schedules A and B).
COLUMN (17), Bateman Lake, Dog Lake, Fausse Point, Horseshoe Bayou, Jefferson Island, Plumb Bob, Vermilion Bay, West Cote Blanche and Delta Duck Club.
COLUMN (18), Delta Farm, Lake Salvador, Golden Meadow.

LOUISIANA AND ARKANSAS

FLAT PRICES

Continental Oil Co., 5-21-41:	
Tepetate and Lake Arthur	$1.18
Ville Platte	1.20
Gulf Refining Co., 5-21-41:	
Smackover (Ark.)	$0.83
Lion Oil Refining Co., 5-22-41:	
Smackover (heavy)	$0.83
Dorcheat	1.15
Phillips Petroleum Co., 5-22-41:	
Smackover (heavy)	$0.83
Placid Oil Co., 5-22-41:	
Tullos-Urania (5-21-41)	$1.18
Cotton Valley dist. (above 60°)	1.30
Cotton Valley (Holloway sand)	1.25
Cotton Valley (Bodcaw-D sands)	1.20
Pure Oil Co.:	
Bosco (5-21-41)	$1.14
Sweet Lake (5-22-41)	1.06
Creole (5-22-41)	1.16
Republic Oil Co., 6-2-41:	
Nevada County, Arkansas	$0.80
Shell Oil Co., Inc., 5-20-41:	
Happytown	$1.15
Standard Oil Co. of Louisiana, 5-22-41:	
Big Creek, Dorcheat, McKamie (sour)	$1.15
Smackover (heavy)	.83
Cotton Valley distillate (9-1-41)	1.40
Cotton Valley (Holloway sand)	1.25
Lisbon distillate	1.20
Republic Oil Refining Co., 5-21-41:	
Bayou Pigeon	$1.20
Texas Co., 5-21-41:	
Erath	$1.21
Garden Island	1.36
Lafitte, Paradis	1.19
Lake Mongoulois	1.36

ROCKY MOUNTAIN GRAVITY TABLE

Below 29	$0.96
29-29.9	.98
30-30.9	1.00
31-31.9	1.02
32-32.9	1.04
33-33.9	1.06
34-34.9	1.08
35-35.9	1.10
36-36.9	1.12
37-37.9	1.14
38-38.9	1.16
39-39.9	1.18
40 and above	1.20

Stanolind Oil & Gas Co., 5-20-41, includes Dutton Creek, Midway and Salt Creek except Tensleep crude, Wyoming.
Sinclair Wyoming Oil Co., 5-20-41, includes Salt Creek and Lost Soldier, except Tensleep crude, Wyoming.
Continental Oil Co., 5-21-41, includes Fort Collins and Wellington, Colorado.

Wyoming

Ohio Oil Co.:	
Rock River (5-20-41)	$1.15
Lance Creek (7-1-41)	1.12
Elk Basin and Grass Creek (light)	1.00
Stanolind Oil & Gas Co., 5-20-41:	
Frannie (light)	.70
Frannie (heavy)	.47
Grass Creek (light)	1.00
Grass Creek (heavy)	.50
Hamilton Dome	.45
Elk Basin	1.00
Salt Creek (Tensleep)	.6785
Continental Oil Co.:	
Big Muddy (5-30-41)	$1.08
Lance Creek (9-1-41)	1.12

TEXAS GULF COAST GRAVITY TABLES

	(1)	(2)	(3)	(4)	(5)
Below 20	$1.06	$1.06	....	$.98	$.93
20-20.9	1.08	1.08	....	1.00	.95
Below 21	....	....	$1.08	....	....
21-21.9	1.10	1.10	1.10	1.02	.97
22-22.9	1.12	1.12	1.12	1.04	.99
23-23.9	1.14	1.14	1.14	1.06	1.01
24-24.9	1.16	1.16	1.16	1.08	1.03
25-25.9	1.18	1.18	1.18	1.10	1.05
26-26.9	1.20	1.20	1.20	1.12	1.07
27-27.9	1.22	1.22	1.22	1.14	1.09
28-28.9	1.24	1.24	1.24	1.16	1.11
29-29.9	1.26	1.26	1.26	1.18	1.13
30-30.9	1.28	1.28	1.28	1.20	1.15
31-31.9	1.30	1.30	1.30	1.22	1.17
32-32.9	1.32	1.32	1.32	1.24	1.19
33-33.9	1.34	1.34	1.34	1.26	1.21
34-34.9	1.36	1.36	1.36	1.28	1.23
35-35.9	1.38	....	1.38	1.30	1.25
36-36.9	1.40	....	1.40	1.32	1.27
37-37.9	1.42	....	1.42	1.34	1.29
38-38.9	1.44	....	1.44	1.36	1.31
39-39.9	1.46	....	1.46	1.38	1.33
40 and above	1.48	....	1.48	1.40	1.35

TEXAS GULF COAST GRAVITY TABLE EXPLANATION

COLUMN (1):
Humble Oil & Refining Co., 5-21-41, includes Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa (new), Raccoon Bend, South Thompsons, Sugarland, Thompsons, and Webster fields.
Stanolind Oil & Gas Co., 5-21-41, includes West Beaumont, High Island and Spindletop.
Sinclair Prairie Oil Marketing Co., 5-21-41.
Stanolind Oil Purchasing Co., 4-1-41, includes Clinton where schedule starts at 98 cents for below 21°, regular thereafter.
Pure Oil Co., 4-21-41, includes Louise and Ganado.
Gulf Refining Co., 5-21-41, includes Spindletop, Sour Lake, Lovells Lake, West Beaumont, Goose Creek, South Liberty, Big Creek, Blue Ridge, Fannett, Moore, Barbers Hill, Hankamer, Thompson, Lochridge, Dyersdale, and Hull (old).
Sun Oil Co., 5-21-41, includes Barbers Hill, Batson (old), Bayou Blue, Chacahoula, Cotton Lake, Esperson (below 35° gravity), Fausse Pointe, Goose Creek, Greens Lake, Hackberry (east and west), Hull (below 25°), Humble (below 35°), Nome, North Dayton (below 25°), Orange, Saratoga, Sour Lake, South Liberty and Vinton.
COLUMN (2):
Texas Co., 5-21-41, includes Arriola, Ganado, Hamman, Hillje, Humble, Kubela, Magnet, Manvel, Markham, Mauritz, Old Ocean, Pickett Ridge, Port Neches, Sour Lake, West Columbia, and Withers.
COLUMN (3):
Pan American Production Co., 5-21-41, includes Hastings and South Houston.
Stanolind Oil & Gas Co., 4-1-41, in-

cludes High Island, Spindletop, Hastings, and South Houston.

COLUMN (4):

Humble Oil & Refining Co., 5-21-41, includes Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull (new and old), Pierce Junction, Red Fish Reef, and Turtle Bay.

Gulf Refining Co., 5-21-41, includes Anahuac, Hull (new), Thompson (deep), Pierce Junction, and Orange.

Sun Oil Co., 5-21-41, includes Anahuac, Caplen and Turtle Bay.

Humble Oil & Refining Co., 3-29-41, includes Dickinson, Gillock, Hardin, League City, and Rowan.

COLUMN (5):

Pan American Production Co., 5-21-41, includes Gillock, except scale starts at 95 cents below 21°.

Stanolind Oil Purchasing Co., 5-21-41, includes Fairbanks, North Houston, and Rosyln.

SOUTH TEXAS AND SOUTHWEST TEXAS GRAVITY TABLES

	1	2	3	4	5	6	7
Below 20	$1.03	$1.08	$1.08	$.89	$1.03	$1.03	$1.08
20-20.9	1.05	1.10	1.10	.90	1.05	1.05	1.10
21-21.9	1.07	1.12	1.12	.91	1.07	1.07	1.12
22-22.9	1.09	1.14	1.14	.92	1.09	1.09	1.14
23-23.9	1.11	1.16	1.16	.93	1.11	1.11	1.16
24-24.9	1.13	1.18	1.18	.94	1.13	1.13	1.18
25-25.9	1.15	1.20	1.20	.95	1.15	1.15	1.20
26-26.9	1.17	1.22	1.22	.96	1.17	1.17	1.22
27-27.9	1.19	1.24	1.24	.97	....	1.19	1.24
28-28.9	1.21	1.26	1.26	.98	....	1.21	1.26
29-29.9	1.23	1.28	....	.99	....	....	1.28
30-30.9	1.25	1.30	....	1.00	....	....	1.30
31-31.9	1.27	1.32	....	1.01	....	....	1.32
32-32.9	1.29	1.34	....	1.02	....	....	1.34
33-33.9	1.31	1.36	....	1.03	....	....	1.36
34-34.9	1.33	1.38	....	1.04	....	....	1.38
35-35.9	1.35	1.40	....	1.05	....	....	1.40
36-36.9	1.37	1.42	....	1.06	....	....	....
37-37.9	1.39	1.44	....	1.07	....	....	....
38-38.9	1.41	1.46	....	1.08	....	....	....
39-39.9	1.43	1.48	....	1.09	....	....	....
40 and above	1.45	1.50	....	1.10	....	....	....

SOUTH AND SOUTHWEST TEXAS TABLE EXPLANATION

COLUMN (1) MIRANDO:

Humble Oil & Refining Co., 5-21-41, includes Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons, Glen, Government Wells (North and South), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manila, Mirando Valley, Placedo, Randado, Sarnosa, and Tesoro.

Magnolia Petroleum Co., 5-21-41.

Continental Oil Co., 7-1-41. Includes Hoffman, Government Wells (North and South), Lopez, Moco, Colmena, Seven Sisters, South Seven Sisters, Loma Novia, Conoco Driscoll, O'Hern, Piedre Lumbre, and Taranchauas.

American Mineral Spirits Co., 5-21-41, includes Adami and Munson.

Republic Oil Refining Co., 5-21-41, includes Heyser field crude.

COLUMN (2) REFUGIO:

Continental Oil Co., 7-1-41, includes Minnie Bock, Clara Driscoll, South Clara Driscoll, Driscoll Ranch, Orange Grove, and Wade City.

Humble Oil & Refining Co., 5-21-41, includes East White Point, Greta, Melon Creek, O'Connor-McFaddin, Plymouth, Saxet, Taft, and Tom O'Connor.

American Mineral Spirits Co., 5-21-41, includes Plymouth, Taft, and East White point.

COLUMN (3) REFUGIO:

Texas Co., 5-21-41, includes Greta, Saxet, and Taft.

COLUMN (4) LA ROSA:

American Mineral Spirits Co., 3-29-41.

COLUMN (5) DUVAL-MIRANDO:

Sun Oil Co., 5-21-41.

COLUMN (6) DUVAL-MIRANDO:

Texas Co., 5-21-41.

COLUMN (7) NUECES COUNTY:

American Mineral Spirits Co., 5-21-41.

Republic Oil Refining Co., 5-21-41.

WEST TEXAS, PANHANDLE AND NEW MEXICO TABLE EXPLANATION

COLUMN (1):

Humble Oil & Refining Co., 5-21-41, includes Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler, and Yoakum counties, West Texas, and Lea County, New Mexico.

Gulf Refining Co., 5-21-41, includes Crane, Ector, Upton, Ward, and Winkler counties, West Texas.

COLUMN (2):

Sinclair Prairie Oil Marketing Co., 5-21-41, includes West Texas and Lea County, New Mexico. Effective 5-29-41 in Eddy County, New Mexico.

Magnolia Petroleum Co., 5-21-41, includes Upton, Howard, Glasscock, Mitchell, Winkler, Cochran, Hockley, Yoakum and Gaines counties.

COLUMN (3):

Texas Co., 5-21-41, includes Crane and Winkler counties, Texas, and Lea County, New Mexico.

COLUMN (4) TEXAS PANHANDLE:

Magnolia Petroleum Co., 7-9-41.

Continental Oil Co., 7-9-41.

Phillips Petroleum Co., 7-9-41.

COLUMN (5) WINKLER AND LEA:

Stanolind Oil & Gas Co., 5-21-41, includes Winkler County only.

Gulf Refining Co., 5-21-41, includes Lea County, New Mexico, only.

COLUMN (6) GRAY COUNTY:

Texas Co., 5-21-41.

H. F. Wilcox Oil & Gas Co. (7-9-41).

COLUMN (7) LEA COUNTY:

Magnolia Petroleum Co., 5-21-41.

COLUMN (8) EDDY COUNTY:

Continental Oil Co., 5-30-41.

COLUMN (9):

Shell Oil Co., Inc., 5-20-41, includes Crane, Ector, Howard, Glasscock, Upton, Winkler, and Yoakum counties, Texas, and Lea County, New Mexico.

COLUMN (10) TEXAS PANHANDLE:

Humble Oil & Refining Co., 7-9-41.

COLUMN (11) PANHANDLE:

Sinclair Prairie Oil Marketing Co., 5-23-41.

WEST TEXAS, PANHANDLE, AND NEW MEXICO GRAVITY TABLES

	1	2	3	4	5	6	7	8	9	10	11
Below 20	$0.70	....	....	....	....	....	....	....	$0.70	$.73	....
20-20.9	.72	....	....	....	....	....	....	....	.72	.75	....
21-21.9	.74	....	....	....	....	....	....	....	.74	.77	....
22-22.9	.76	....	....	....	....	....	....	....	.76	.79	....
23-23.9	.78	....	$0.78	....	....	....	....	....	.78	.81	....
24-24.9	.80	....	.80	....	....	....	....	....	.80	.83	....
Below 25	....	$0.80	....	....	....	....	$0.80	....	....	....	$0.93
25-25.9	.82	.82	.82	....	$0.82	....	.82	....	.82	.85	.95
26-26.9	.84	.84	.84	....	.84	....	.84	....	.84	.87	.97
27-27.7	.86	.86	.86	....	.86	....	.86	....	.86	.89	.99
28-28.9	.88	.88	.88	$0.91	.88	....	.88	$0.88	.88	.91	.91
29-29.9	.90	.90	.90	.93	.90	....	.90	.90	.90	.93	.93
30-30.9	.92	.92	.92	.95	.92	....	.92	.92	.92	.95	.95
31-31.9	.94	.94	.94	.97	.94	....	.94	.94	.94	.97	.97
32-32.9	.96	.96	.96	.99	.96	....	.96	.96	.96	.99	.99
33-33.9	.98	.98	.98	1.01	.98	....	.98	.98	.98	1.01	1.01
34-34.9	1.00	1.00	1.00	1.03	1.00	$1.03	1.00	1.00	1.00	1.03	1.03
35-35.9	1.02	1.02	1.02	1.05	1.02	1.05	1.02	1.02	1.02	1.05	1.05
36-36.9	1.04	1.04	1.04	1.07	1.04	1.07	1.04	1.04	1.04	1.07	1.07
37-37.9	1.06	1.06	....	1.09	1.06	1.09	....	1.06	....	1.09	1.09
38-38.9	1.08	1.08	....	1.11	1.08	1.11	....	1.08	....	1.11	1.11
39-39.9	1.10	1.10	....	1.13	1.10	1.13	....	1.10	....	1.13	1.13
40 and above	1.12	1.12	....	1.15	1.12	1.15	....	1.12	....	1.15	1.15

NORTH TEXAS, WEST CENTRAL TEXAS, EAST CENTRAL TEXAS GRAVITY TABLES

	1	2	3	4	5	6	7	8
Below 20	....	....	....	....	$.80	....	....	....
20-20.9	....	....	....	....	.82	....	....	....
Below 21	....	....	....	....	....	$.81	....	....
21-21.9	....	....	....	....	.84	.83	....	....
22-22.9	....	....	....	....	.86	.85	....	....
23-23.9	....	....	....	....	.88	.87	....	....
24-24.9	....	....	....	....	.90	.89	....	....
Below 25	....	....	....	$.88	....	....	$.89	$.95
25-25.9	$.91	....	.90	$.97	.92	.91	.91	.97
26-26.9	.93	....	.92	.99	....	.93	.93	.99
27-27.9	.95	....	.94	1.01	....	.95	.95	1.01
28-28.9	.97	.97	.96	1.03	....	.97	.97	1.03
29-29.9	.99	.99	.98	1.05	....	.99	.99	1.05
30-30.9	1.01	1.01	1.00	1.07	....	1.01	1.01	1.07
31-31.9	1.03	1.03	1.02	1.09	....	1.03	1.03	1.09
32-32.9	1.05	1.05	1.04	1.11	....	1.05	1.05	1.11
33-33.9	1.07	1.07	1.06	1.13	....	1.07	1.07	1.13
34-34.9	1.09	1.09	1.08	1.15	....	1.09	1.09	1.15
35-35.9	1.11	1.11	1.10	1.17	....	1.11	1.11	1.17
36-36.9	1.13	1.13	1.12	1.19	....	1.13	1.13	1.19
37-37.9	1.15	1.15	1.14	1.21	....	1.15	1.15	1.21
38-38.9	1.17	1.17	1.16	1.23	....	1.17	1.17	1.23
39-39.9	1.19	1.19	1.18	1.25	....	1.19	1.19	1.25
40 and above	1.21	1.21	1.20	1.27	....	1.21	1.21	1.27

NORTH TEXAS, WEST CENTRAL TEXAS, EAST CENTRAL TEXAS TABLE EXPLANATION

COLUMN (1) WEST CENTRAL AND NORTH:

Humble Oil & Refining Co., 12-11-41, includes Brown, Callahan, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, and Throckmorton counties.

Panhandle Refining Co., 12-11-41, in Leuders area.

Gulf Refining Co., 12-11-41.

Sinclair Prairie Oil Marketing Co., 12-11-41.

COLUMN (2) NORTH TEXAS:

Continental Oil Co., 12-11-41.

Magnolia Petroleum Co., 12-11-41.

Panhandle Refining Co., 12-11-41.

Bell Oil & Gas Co., 12-11-41.

Texas Co., 12-11-41.

COLUMN (3) EAST CENTRAL:

Magnolia Petroleum Co., 5-21-41, includes Cass, Panola, and Rodessa (Texas and Louisiana), and Miller County, Arkansas.

Gulf Refining Co., 5-21-41, includes Rodessa, Texas.

COLUMN (4) EAST CENTRAL:

Humble Oil & Refining Co., 5-21-41, includes Anderson, Cherokee, Limestone, and Navarro counties and the Navarro Crossing field.

COLUMN (5) EAST CENTRAL:

Humble Oil & Refining Co., 5-21-41, includes Hawkins field.

COLUMN (6) NORTH TEXAS:

Stanolind Oil Purchasing Co., 12-11-41.

COLUMN (7) FISHER COUNTY:

Shell Oil Co., Inc., 12-11-41.

COLUMN (8) MEXIA:

Sinclair Prairie Oil Marketing Co., 5-30-41.

TEXAS FLAT-PRICE FIELDS

Agua Dulce (light), Benavides, Longhorn, Southland, and Sweden, 5-21-41 ..... $1.35

(Continued on Page 83)

STANDARD OIL CO. OF CALIFORNIA

CRUDE-OIL PRICES EFFECTIVE MAY 23, 1941

(All gravities above those quoted take highest price offered in that field)

Gravity	Signal Hill (Long Beach)	Wilmington	(El Segundo)	Seal Beach	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley, Canal, Wasco	Coles Levee	Mountain View	Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Elwood Terrace
14-14.9	....	$.68	....	....	$.71	....	....	$.70	....	$.70	$.70	$.70	$.72	....	....	....	....	....	$.73	$.73	$.73	....	....	....
15-15.9	....	.71	....	....	.75	$.76	....	.72	....	.72	.71	.72	.72	....	....	....	....	....	.73	.73	.73	....	....	....
16-16.9	....	.74	$.79	....	.79	.79	....	.75	....	.74	.73	.75	.72	....	....	....	....	....	.73	.75	.73	....	....	....
17-17.9	....	.78	.82	....	.82	.82	....	.78	....	.77	.76	.78	.72	....	....	....	....	....	.75	.78	.73	....	....	....
18-18.9	$.80	.82	.86	....	.86	.85	....	.81	....	.80	.79	.82	.74	....	....	....	....	....	.78	.81	.73	....	....	....
19-19.9	.84	.86	.90	....	.89	.88	....	.85	....	.83	.82	.85	.77	....	....	....	....	$.73	.81	.84	.75	....	....	....
20-20.9	.88	.90	.94	....	.93	.92	$.80	.88	....	.86	.85	.89	.80	....	....	....	....	.76	.85	.87	.77	....	....	....
21-21.9	.92	.94	.98	....	.96	.95	.84	.91	....	.89	.89	.92	.84	....	....	....	....	.79	.90	.90	.80	....	....	....
22-22.9	.96	.98	1.02	$.88	.99	.98	.87	.95	....	.93	.93	.96	.87	....	....	....	....	.83	.94	.93	.83	$.76	....	....
23-23.9	1.00	1.02	1.05	.92	1.02	1.01	....	.98	....	.97	.98	1.00	.91	....	....	....	....	.87	.99	.96	.86	.80	....	....
24-24.9	1.03	1.06	1.07	.97	1.05	1.04	f.o.b.	1.01	....	1.01	1.02	1.03	.94	$.99	....	....	....	.90	1.03	.99	.89	.83	....	....
25-25.9	1.07	1.09	1.10	1.01	1.08	1.07	our	1.04	....	1.05	1.06	1.07	.98	1.02	....	....	....	.94	1.07	1.01	.92	....	....	....
26-26.9	1.11	1.12	1.12	1.06	1.11	1.10	pipe	1.08	....	1.09	1.10	1.11	1.01	1.06	....	....	....	.97	1.11	1.04	.95	....	....	....
27-27.9	1.15	1.15	1.15	1.10	1.14	1.14	line	1.11	....	1.13	....	1.15	1.05	1.10	$1.04	....	....	1.01	1.15	1.07	.98	....	....	....
28-28.9	1.18	1.18	1.18	1.15	1.17	1.17	....	1.14	....	1.17	....	....	1.08	1.13	1.08	....	....	1.04	1.19	1.10	1.00	....	....	....
29-29.9	1.20	1.21	....	1.19	1.20	1.20	....	....	$1.17	....	....	....	1.12	1.17	1.12	....	....	1.07	1.24	1.13	1.02	....	....	....
30-30.9	1.23	1.24	....	....	1.23	1.22	....	....	1.21	....	....	....	1.15	1.21	1.15	$1.01	$1.09	1.10	1.28	1.16	1.04	....	....	f.o.b.
31-31.9	....	....	....	....	....	1.24	....	....	1.25	....	....	....	1.19	1.24	1.19	1.04	1.12	1.14	....	....	1.06	....	....	ship
32-32.9	....	....	....	....	....	....	....	....	1.29	....	....	....	1.23	1.28	1.23	1.07	1.14	1.17	....	....	1.09	....	....	....
33-33.9	....	....	....	....	....	....	....	....	1.32	....	....	....	1.27	....	1.26	1.10	1.17	....	....	....	1.11	....	....	$1.22
34-34.9	....	....	....	....	....	....	....	....	1.36	....	....	....	1.31	....	1.30	1.13	1.20	....	....	....	1.13	....	....	1.25
35-35.9	....	....	....	....	....	....	....	....	....	....	....	....	1.35	....	....	1.16	1.22	....	....	....	....	....	$1.23	1.28
36-36.9	....	....	....	....	....	....	....	....	....	....	....	....	1.39	....	....	1.19	1.25	....	....	....	....	....	1.26	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	....	1.43	....	....	1.22	....	....	....	....	....	....	1.29	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	1.25	....	....	....	....	....	....	....	....
39-39.9	....	....	....	....	....	....	....	....	....	....	....	....	1.51	....	....	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	....	....	....	....	....	....	....	....	....	1.53	....	....	....	....	....	....	....	....	....	....	....

Standard posts 75 cents for all grades at Newhall, Kern River, Kern Front, McKittrick and Round Mountain.

Personal Paragraphs

A. D. COCHRAN, attorney and oil man of Okmulgee, Okla., has just accepted the presidency of the Creek Nation area council of the Boy Scouts of America for a fifth term.

JAMES E. PEW, of Charleston, W. Va., has been appointed as assistant to PAUL M. RAIGORODSKY, chief of the Natural Gas and Natural Gasoline Section, Office of Petroleum Coordinator. He comes from the Virginian Gasoline & Oil Co., where he was superintendent in charge of production, construction, design and maintenance of natural-gasoline plants.

W. E. WOOD, oil operator of Okmulgee, Okla., is chairman of the board of the 4-H junior livestock show group in his home county.

O. F. COLLINGE, of Los Angeles, Calif., was recently elected president of Inglewood Gasoline Co., which has two natural-gasoline plants in operation in California fields.

I. W. ALCORN, chief petroleum engineer of the Pure Oil Co., Houston, Tex., was the principal speaker at the weekly meeting of the Houston Geological Society the past week.

WILLIAM F. HUMPHREY, president, has announced that the Tide Water Associated Oil Co. will contribute $25,000 to the nation-wide war-fund drive of the American Red Cross.

FRED PETTY, chief engineer in the Drumright, Okla., field for Sinclair Prairie Oil Co., has been appointed a member of the Civilian Defense Committee, and is spending considerable time in organizing first-aid classes.

RALPH C. CHAMPLIN, director of public relations for Ethyl Gasoline Corp., has been appointed director of advertising as well, effective February 1. In the latter capacity he succeeds PAUL E. McELROY, who is entering government service.

CHARLES F. ROESER, Fort Worth, Tex., general chairman for District 3 of the Office of Petroleum Coordinator, has recently been named chairman of the Texas Mid-Continent Oil and Gas Association drive for the collection of scrap metal and rubber in the oil industry.

G. C. MADDOX, district geologist for Carter Oil Co., formerly of Ponca City, Okla., has been transferred to Magnolia, Ark.

R. D. CHAPPIUS, manager at Lafayette, and J. M. BENNETT, assistant statistician at the Baton Rouge office, and both with the minerals division, Louisiana Conservation Department, have been called into service as reserve officers, and are now at Fort Knox, Ky. D. D. GOOCH, who was head of the Lake Charles office, succeeds Mr. Chappius, and JOHN HAY, division inspector at Baton Rouge, succeeds Mr. Bennett.

WALTER C. TEAGLE, chairman of the board of the Standard Oil Co. of New Jersey, was named vice chairman of the Business Advisory Council of the Department of Commerce at the first meeting of the council this year. Mr. Teagle also was appointed to the executive committee for the coming year.

VIC E. BAUM, formerly general superintendent, Ryan Consolidated Petroleum Corp., Dallas, Tex., recently joined the organization of Helmerich & Payne, Inc., and has headquarters at Fort Worth Tex. He will direct operations in Texas, Louisiana and New Mexico, and will make drilling contracts and handle acreage and production deals.

W. R. COX and DONALD BOLLS, title and lease men formerly located in the New Orleans, La., division of the Texas Co., have been transferred to Jackson, Miss., where a land and scouting office was recently opened. R. F. HODGMAN has been appointed geological and land scout for the area which works under the supervision of the New Orleans division.

SID BINION has joined the scouting department of the Pure Oil Co. and is now headquartered at Laredo, Tex.

ALFRED E. WOLFE, formerly with F. S. Moseley & Co., has been appointed assistant to W. T. HOLLIDAY, president of the Standard Oil Co. of Ohio.

GLENN GALBREATH, geologist, Centralia, Ill., and Tulsa, has closed his office and enlisted in the Army. He is now at a reception center at Fort Sill, Okla.

WILLIAM PAUL HARRINGER, of South Penn Oil Co., Bradford, Pa., suffered a fractured leg while working on the company lease at Davis City, Pa., last week. He is reported recovering at a Bradford hospital.

J. C. DENTON, vice president and general counsel of Mid-Continent Petroleum Corp., Tulsa, was flown home last week from a clinic in Rochester, Minn. The trip was made in a Carter Oil Co. plane from which the seats had been removed to make a flying ambulance.

FRANCIS P. SHEPARD, professor of geology at University of Illinois and authority on submarine canyons, discussed his investigation of the canyons before the Fort Worth (Tex.) Geological Society last Tuesday in the Blue Room of the Worth Hotel.

W. B. HEAD, JR., has been named assistant manager of the Houston, Tex., division of United Gas Corp. Mr. Head, a native Texan, has been in the public-utility business for 15 years. For the past 14 months he has been assistant to the vice president and general manager.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

At the annual meeting of the Standard Oil Co. of New Jersey, F. W. Weller, vice president, made the statement that "owing to the unprecedented demand for petroleum products, the year 1916 has been a prosperous one in all branches of the business."

Material for the refinery to be erected at Enid, Okla., by W. B. Piper and others, has arrived and the rest of it will soon be on the ground.

Henry Eck, 37, well known throughout the oil fields from his invention of the turnbuckle derrick, was drowned in Simpson County, Kentucky, the evening of January 14.

20 YEARS AGO

J. D. Reynolds, general counsel of the National Petroleum Marketers Association, has tendered his resignation to take effect on February 15.

Sir John Cadman, head of the Anglo-Persian Oil Co., who is visiting this country, will reach the Mid-Continent field within the next few days. Sir John's trip will be for the purpose of inspecting certain refining processes.

Myron K. Blackmer, vice president of the Midwest Refining Co., has been elected a director of the Mountain & Gulf Co., one of the Salt Creek oil properties.

10 YEARS AGO

George L. Holton, president of the Turner Oil Co. of California, was killed last week when his automobile collided with a Pacific Electric train in Los Angeles, Calif.

Commending operators for shutting down their wells on Sunday or reducing runs by one-seventh, the Texas division of the Mid-Continent Oil and Gas Association expressed itself in favor of the program.

Roland H. Smith, president of the Oklahoma Co., and discoverer of Oklahoma's Greater Seminole area, died at his home in Philadelphia, Pa., on Friday, January 29.

R. J. JOPLING, vice president, Phillips Petroleum Co., was in Oklahoma City last week, attending his son's wedding.

CHARLES E. SCHOCK, who has been in the Midland, Tex., office of Stanolind Oil & Gas Co., has been transferred to Amarillo, Tex.

S. F. SHAW, consulting engineer of San Antonio, Tex., is spending several weeks in Kentucky, where he is engaged in examining oil properties.

DR. CARL F. RUST, assistant professor of physics at University of Tulsa, will resign March 15 to join the geophysical department of Amerada Petroleum Corp.

WILLIAM G. JONES, former publisher of the Denham Springs (La.) News, has joined the refinery organization of Standard Oil Co. of Louisiana, as assistant editor of the Stanocolan. Mr. Jones has had a varied experience in the newspaper field.

JOHN G. PEW has been named by the directors of the Dallas Petroleum Club as president of the organization, succeeding H. S. MOSS. RAY HUBBARD was elected vice president, replacing L. S. SINCLAIR and E. L. WILSON is the new secretary-treasurer, succeeding ERIC SCHROEDER.

ROY M. JOHNSON, independent producer of Ardmore, Okla., has been designated by the Oklahoma Stripper Well Association and other agencies to discuss with WIRT FRANKLIN, director of District 2 of the OPC, the matter of the crude-oil production rate for Oklahoma established by the OPC. He left for Chicago last week.

Eastern Superintendent

Ralph E. Damp, eastern division superintendent of Carter Oil Co., with headquarters at Mattoon, Ill., was born February 26, 1905, in Aledo, Ill. He received his elementary and high-school education in Illinois, and attended the University of Minnesota. He was graduated from the Minnesota institution in 1926, with degree of chemical engineer. He joined Carter Oil Co. at Tulsa in 1926 as laboratory assistant, and later served in the Seminole, Okla., area, supervising water treatment and special problems in the manufacture of natural gasoline. He also worked in the gas-lift department, and in the production engineering department in charge of water-flooding and repressuring operations. In 1935 he became division petroleum engineer at Burbank, Okla., and in 1937 he was elevated to production superintendent of the Burbank division. He was transferred to the eastern division, Mattoon, as production superintendent in November 1937.

RALPH E. DAMP

On May 1, 1941, Mr. Damp was advanced to eastern division superintendent, upon the transfer of William A. Watkins to Shreveport, La., as superintendent of Carter's new southern division, encompassing operations in Arkansas, Louisiana, Mississippi and Alabama. Carter's eastern division includes operations in Illinois, Indiana, Kentucky and Michigan.

Mr. and Mrs. Damp have one child, Carolyn Patricia, age 12. Mr. Damp lists all sports as among his hobbies.

HOMER SCOTT, clerk in the crude-oil department of Bell Oil & Gas Co., Tulsa, is in a Tulsa hospital recovering from an appendectomy he underwent this week.

F. N. BOSCO, formerly in the Tulsa engineering department of Stanolind Oil & Gas Co., has accepted a place on the staff of the Texas North Basin Pools Engineering Committee temporarily. He will headquarter at Midland, Tex.

BRYAN W. PAYNE, an independent oil operator of Tyler, Tex., was selected by directors of the East Texas Salt Water Disposal Corp. to direct, as president of the firm, its community program for the disposal of salt water in the East Texas field.

J. B. ARTHUR, manager of foreign sales of Union Oil Co., Los Angeles, Calif., has retired after long service and has been succeeded by DONALD M. CAMERON, formerly district sales manager at Burbank, Calif., and a member of the Union family since 1931.

A. B. COBB, Cut Bank, Mont., producer and head of Home Oil & Refining Co., Great Falls, Mont., operates a gold-mining lease at Cripple Creek, and a few weeks ago a rich strike was encountered. Nine truck loads of ore netted better than $150 per ton. Two other loads subsequently delivered averaged $134 a ton.

E. G. DAHLGREN, who was recently technical secretary of the research and coordinating committee of the Interstate Oil Compact Commission, will report to the Oklahoma City headquarters of the commission, located in the State Capitol, the latter part of the week. He resigned his position on the production staff of OPC to accept the new work.

FRED W. LANGNER, engineer with Socony-Vacuum Oil Co., addressed the Olean Exchange Club last week and told the members of his trip home from Budapest, Hungary. He and Mrs. Langner trekked through Rumania, Turkey, Syria and Palestine, following their departure last July from Budapest. At Cairo, Egypt, they booked passage home on a freighter with a top speed of 10 m.p.h. The freighter sluggishly made for the South American coast.

Shifts: C. A. KUTZ, superintendent, Freeport Sulphur Co., Port Sulphur, La., to Stillwater, Minn.; L. L. BLOMGREN, manager, Central States Oil Corp., St. Elmo, Ill., to Evansville, Ind.; C. L. WINTERS, superintendent, Allied Pipe Line Corp., St. Elmo, Ill., to Memphis, Tenn.; S. W. FARRELL, geologist, Shell Oil Co., Inc., Evansville, Ind., to Centralia, Ill.; CHARLES A. ASTON, superintendent, Franklin Petroleum Corp., Smith, N. M., to Loco Hills, N. M.; E. C. WALLACE, engineer, Seismograph Service Corp., Shawnee, Okla., to Ferriday, La.; J. A. LIMING, engineer, Stanolind Oil & Gas Co., Anadarko, Okla., to Tulsa; J. J. ZORICHAKE, engineer, Stanolind Oil & Gas Co., Tulsa, to Office of Petroleum Coordinator, Denver, Colo.; ROLAND W. CARTER, Seismograph Service Corp., Effingham, Ill., to Shawnee, Okla.; C. R. HENSH, geologist, Standard Oil Co. of Texas, Pecos, Tex., to Eldorado, Tex.; J. R. GILLILAND, seismograph department, Stanolind Oil & Gas Co., Scott City, Kans., to Atlanta, Tex.; FRED TRAUGOTT, superintendent, Noble Drilling Co., New Iberia, La., to Port Lavaca, Tex.

W. K. LAWRENCE, district superintendent of Phillips Petroleum Co., was host to some 125 employes of the firm in the Burbank, Okla., district last week at a dinner party in Burbank. The occasion marked the achievement of working 290,156 man-hours without a disabling injury to any member of the department.

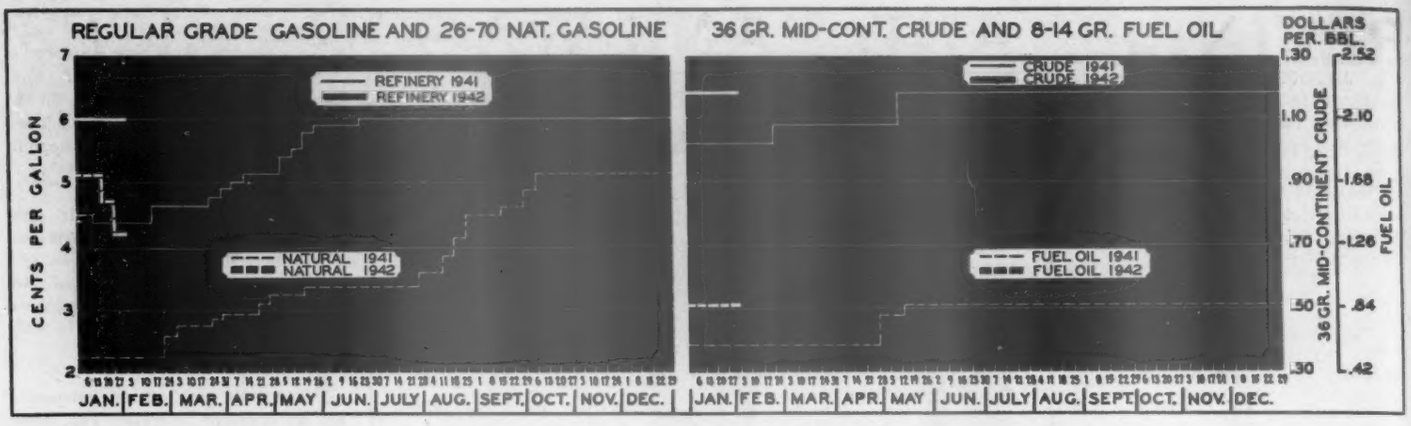
R. L. PEURIFOY, president of the Petroleum Industries Association, has tendered his resignation and has left for Washington, D. C., to participate in a national-defense project. He will be field representative for the National Defense Division of the Office of Education for the duration of the war.

D. A. MOORE, of Wilshire Oil Co. and president of the Los Angeles Petroleum Accountants Society, appointed GORDON D. CAMPBELL, of General Petroleum Corp., as chairman for the last monthly meeting.

JOSEPH M. WEAVER, Eastland, Tex., was named president of the West Central Texas Oil and Gas Association for 1942 at a directors' meeting last week. W. H. RHODES, Breckenridge, Tex., president during 1941, was chosen a vice president. Reelected vice presidents were C. W. HOFFMAN, Eastland, and J. E. WHITESIDE, Brownwood, Tex.

D. B. PRUESS, Cities Service Oil Co., Bartlesville, Okla., has been appointed as an additional member of the Temporary Containers Subcommittee of the Marketing Committee for OPC's District 2. A. W. HORTON has resigned as a member of the jobbers subcommittee to enter active Army service.

WALTER E. HOPPER, who resigned November 1, 1941, as senior petroleum geologist and engineer in charge, in the oil and gas unit of the Securities and Exchange Commission and who has been in charge of the Tulsa field office for the past 2 years, has announced the opening of an office as a consulting geologist in Tulsa, specializing in the preparation of data required to be filed by producers of oil and gas under OPC orders M-68 and P-98 and the Securities Act of 1933.


REGULAR GRADE GASOLINE AND 26-70 NAT. GASOLINE
REFINERY 1941
REFINERY 1942
NATURAL 1941
NATURAL 1942
CENTS PER GALLON
JAN. FEB. MAR. APR. MAY JUN. JULY AUG. SEPT. OCT. NOV. DEC.
36 GR. MID-CONT. CRUDE AND 8-14 GR. FUEL OIL
CRUDE 1941
CRUDE 1942
FUEL OIL 1941
FUEL OIL 1942
DOLLARS PER BBL.
36 GR. MID-CONTINENT CRUDE
FUEL OIL
JAN. FEB. MAR. APR. MAY JUN. JULY AUG. SEPT OCT. NOV. DEC.

MARKET DEVELOPMENTS . . .

Mid-Continent

NATURAL gasolines are the weakest product in Mid-Continent markets with declines of ½ cent per gallon at plants throughout the area over the past week. The first of the week 26-70 natural gasoline was bringing 4 cents in North Texas markets and 4¼ cents in Oklahoma (Group 3). The decline, which places prices at the lowest levels since August 1941, is explained as due to developments in both export and domestic markets. Sales to exporters and coastwise shippers, which absorb a large part of the Texas production of natural gasoline, have decreased steadily since the middle of January. This is reflection of a dropping off in lend-lease sales of the finished grades of motor fuels and the fact that tanker shipments of sales made in December have slowed down because of the presence of enemy submarines in Atlantic seaboard and Caribbean waters.

It is also apparent that natural-gasoline shipments to jobbers and refiners located at Mid-Continent and Middle East points have decreased. This is partially a seasonal development and also reflects a situation in which some grades of motor fuel are available from refineries at lower quotations so they have taken business away from the natural-gasoline manufacturers.

Sellers reported improvement in sales of regular-grade motor fuels but the buying has not come in sufficient volume to end price shading. Resellers are able to purchase limited quantities of spot material which they are offering to the jobber trade ⅛ to ¼ cent under the going market established by the larger refiners.

East Coast

NEW YORK, Feb. 2.—The rapidly tightening East Coast oil-supply situation overshadowed all other developments relating to the markets in that area last week. East Coast stocks of the major refined products continued to decline at the rate of more than 2,500,000 bbl. per week and predictions of impending difficulties were being voiced more generally.

Chief concern is centered on light fuel-oil stocks which have dropped 4,925,000 bbl. in these 3 weeks, an average of 1,642,000 bbl. per week. A continuation of this rate would totally exhaust existing East Coast stocks in 8½ weeks.

If heating-oil demand does continue at its current rate for any length of time and if shipments of oil from the Gulf are not increased, some method of rationing supplies will be required. Since both heating-oil and residual-fuel-oil used for industrial purposes are essential, curtailment of consumption will necessarily be centered on gasoline.

The effect of rationing, it is believed, would be to close many service stations which have already been hard hit by the tire curtailment. The TBA (tires, batteries, accessories) business accounts for 10 to 15 per cent of service-station profits. In recognition of the possibility of rationing, the Eastern States Gasoline Dealers Conference has urged the Government to make mandatory the closing of service stations from 7 p.m. to 7 a.m.; to fix the dealers' margin at 5 instead of 4 cents per gallon; to forbid sales direct to truck-fleet operators and to declare a moratorium on the principal of mortgages on gasoline-station property to extend 1 year after the end of the war.

Gasoline sales by the major oil companies are reported to be well in excess of expectations. While the bulk of the increase is said to be due to export and military requirements, service-station sales are also reported to be running above those of last year despite tire rationing which, in some quarters at least, was expected to result in a substantial decline in motor-fuel demand.

Sentence Summaries

MID-CONTINENT: Natural-gasoline prices decline 0.5 cent per gallon. Motor-fuel sales better.

EAST COAST: Oil supplies tighten rapidly. Gasoline sales more than expected.

GULF COAST: Gasolines, gas oils and fuels weaker. Prices off. Kerosene inquiries active.

PACIFIC COAST: General refinery market inactive. Price schedules unchanged.

PENNSYLVANIA: Lubricating-oil prices steady. Demand holding.

A.P.I. REFINERY REPORT

(Figures in thousands of barrels)

(Week ended January 24, 1942)

	Dly. crude runs to stills	Stocks: Gasoline	Residual	Gas oil
East Coast	603	19,812	9,615	14,207
Appalachian	151	3,828	491	423
Ind., Ill., Ky.	688	19,754	4,159	3,971
Okla., Kans., Mo.	346	9,452	2,129	1,021
Inland Texas	181	3,348	1,391	97
Texas Gulf	1,049	16,580	9,006	8,141
Louisiana Gulf	164	3,997	2,293	1,508
No. La. and Ark.	88	821	371	61
Rocky Mountain	105	2,030	632	290
California	510	16,731	61,992	12,144
Total Jan. 24, 1942	3,885	96,363	92,079	41,863
Total Jan. 17, 1942	3,723	95,617	92,703	43,984
Total Jan. 25, 1941	3,805	88,302	98,178	39,415

Note: Total refinery runs and refinery stocks for week ended February 1, 1942, appear on Trends page.

CRUDE-OIL STOCKS

(Bureau of Mines Estimate)

Week ended:	Bbl. of crude*
January 24, 1942	247,764,000
January 17, 1942	246,267,000
January 25, 1941	260,093,000

*Does not include heavy, unrefinable California crude.

Gulf Coast

HOUSTON, Tex., Feb. 3.—Gulf Coast refinery markets appeared the past week to be cracking under the pressure of a combination of bearish developments. Kerosene alone gave evidence of sustained firmness. Inquiries for the latter product continued active with sellers still short of material to meet them. Quotations on most all other products tended toward lower levels.

Sale by one of the major refining companies of a little more than 1,000,000 bbl. of pool gasoline to lend-lease account, March delivery, on a reported bid equivalent to 5.875 cents per gallon, was the most important development of the week. This price is from ½ to ¾ cent below what coastal sellers have been getting for this material.

Also of concern was the fact that the U. S. Navy request for gasoline was greatly over bid. On most previous calls for material, there has been a scarcity of material offered due to tightness of gasolines, and on several occasions it has been necessary to resort to obtaining releases from other buyers to fill requests.

This development is due to several factors. In the first place, there has been a definite slackening in lend-lease demand since before the Christmas holidays, allowing refiners, who until now have been heavily oversold, to catch up with their orders. Also for several weeks there has been very little movement of material of any kind or for any purpose, including regular contract outlets. Much of this has been due to interrupted transportation and tanker shortage, although there has been a slowing up in ordering out material for various other reasons, including an actual lessened demand.

While the general market has not dropped off to the extent of the 5.875-cent bid price for lend-lease, gasolines were available at the opening of the week as much as ¼ cent under previous quotations on some grades. Diesel-index gas oils, which have been in heavy demand in the past for lend-lease purposes, also are much easier, and for prompt shipment it is expected quotations could be shaved. A cargo of Bunker C fuel was sold for 85 cents, and one source was reported offering another cargo for 84 cents. No. 2 fuel, which has been fundamentally soft all season but held on prospects of anticipated good demand, now is openly weak with some material being quoted down to 3.875 cents, as against an almost nominal market of from 4 to 4.25 cents that has existed for some time. Kerosenes are not available under 4.25 cents as result of the renewed strength being displayed.

REFINERY AND TANK-WAGON PRICES

(Prices as of February 3)

Refinery Gasoline

Octane (A.S.T.M.):	78	74-76	72-74	68-70	63-66	60 & lower
Mid-Continent*	.....	.....	6.000-6.250	.....	5.625-5.875	5.250-5.500
Pennsylvania	7.750-8.000	6.750-7.000	.....	.....	.....	.....
Gulf Coast	6.500	.....	6.250-6.375	6.000-6.125	.....	.....
Northeast Coast	.....	.....	8.300	8.300	.....	.....
Pacific Coast	7.000-7.500	.....	6.625-6.875	.....	6.375-6.500	5.000-6.000

*Basis Oklahoma Group 3.

Quotations are f.o.b. plant in cars and in cents per gallon except where otherwise noted. They are exclusive of the federal excise taxes of 1.5 cents a gallon on gasoline and 4.5 cents a gallon on lubricating oils, and do not include marine lighterage charges.

Natural Gasoline

Grades:	26-70	18-55	75-85(375-390)
Oklahoma (Group 3)	4.250	5.625-5.875	.....
North Texas	4.000	5.250-5.375	.....
North Louisiana	4.250	5.250-5.375	.....
California	.....	.....	4.500-5.000

Kerosene and No. 1 Fuel Oil

Gravity:	46	45	42-44	41-43	38-40
Mid-Continent*	.....	.....	4.500-4.750	4.375-4.625	.....
North Louisiana	.....	.....	4.375-4.500	.....	.....
Pennsylvania	6.250-6.375	6.375-6.500	.....	.....	.....
California	.....	.....	.....	4.500-6.000	4.500-5.000
Northeast Coast	.....	.....	.....	5.300	.....
Gulf Coast	.....	.....	.....	4.250-4.500	.....

*Basis Oklahoma Group 3.

Tractor, Diesel, and Bunker Fuel Oil

Specifications:	46-48°G.	24 D.I.	48-52 D.I.	58&above	Diesel bunkers	Bunker C
Mid-Continent*	4.125-4.250	.....	.....	.....	.....	.....
California	.....	2.750-4.000	.....	.....	.....	$0.75-85
Gulf Coast	.....	.....	4.125-4.250	4.250-4.375	$1.45	0.85
Northeast Coast	.....	.....	.....	5.200	2.15	1.35
North Louisiana	.....	.....	.....	.....	.....	†0.80-0.85

*Basis Oklahoma Group 3. †10-14° gravity.

Furnace Oil, Gas Oil, Fuel Oil

	No. 2	No. 3	No. 5	No. 6
Mid-Continent*	3.6-3.8	3.5-3.7	$0.85-90	$0.85-90
Pennsylvania (West)	5.6-6.0	5.2-5.75	†5.5-5.875	.....
Northeast Coast	5.2	5.2	$1.65-75	$1.35
Pacific Coast	5.5	5.5	‡0.85-95	‡0.80-85
Gulf Coast	3.875-4.0	.....	1.65	0.85

*Basis Oklahoma Group 3. †36-40 gravity fuel oil. ‡Pacific specification 300. §Pacific specification 400.

Lubricating Oils

Bright and Steam Refined

OKLAHOMA (Group 3)—		
200-210 D, 10-25		27.00
150-160 D, 0-10		23.00
120-125 D, 0-10		22.50
Steam refined:		
600 dark green (untreated)	9.00	9.50
PENNSYLVANIA—		
Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point		30.50
15 pour point		29.50
25 pour point	25.00	28.00
Steam refined:		
600	15.00	16.00
650	15.50	16.50
600 flash	16.00	17.50
630 flash	17.00	18.00

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—	
0-10 pour point:	
200-3	15.00
300-3	18.50
500-3½	20.50
600-3½	21.00

Note: Viscous neutrals, 10-25 pour, quoted 0.5 cent under 0-10 oils.

Wax

(Cents per pound)

OKLAHOMA (Group 3)—	
124-126 (A.m.p.) w.c. scale	4.350-4.550
PENNSYLVANIA (Inland refineries)—	
122-124 (A.m.p.) w.c. scale	4.350-4.450
124-126 (A.m.p.) w.c. scale	4.350-4.450

Note: Most refiners are not quoting on wax pending interpretations of OPA order.

Neutral Oil

CALIFORNIA—		
Pale oils:		
200-2½-3	7.00	7.75
400-3-4	7.25	8.00
600-3-4	8.75	11.00
Red oils:		
200-4-5	7.00	7.75
400-5-6	9.00	11.00
500-900, 5-6½	9.25	11.25
GULF COAST—		
Pale oils:		
200-3	8.50	8.75
300-3	9.00	9.25
500-3½	9.75	10.00
750-3½	10.00	10.25
2,000-4	10.50	10.75
3,000-4	12.25	12.50
PENNSYLVANIA—		
150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point		38.50
10 pour point		37.50
15 pour point		36.50
25 pour point		31.00
200 vis., at 70° F., 3 color:		
Zero pour point		40.50
10 pour point		39.50
15 pour point		38.50
25 pour point		33.00
NEW YORK—		
Wax in bags fully refined:		
130-132 (A.m.p.) wax		6.250
133-135 (A.m.p.) wax		6.550
Crude scale:		
124-126 (A.m.p.) w.s.		4.350-4.450
124-126 (A.m.p.) y.s.		4.350-4.450

EXPORT PRICES

Gasoline—60-62° Gravity, Maximum 400 End Point

Octane:	72-74	68-70	65-66	60
Gulf Coast	6.500	6.250-6.500	5.875	5.625
Pacific Coast	.....	6.125-6.500	5.875-6.000	5.500-5.625

Distillate and Fuel Oil

	Kerosene	Diesel fuel				Bunker
	41-43	24 G.	48-52 D.I.	58 D.I.	Bunkers	C grade
Gulf Coast	4.000-4.250	.....	4.125-4.375	4.375	$1.65-80	$0.85-95
Pacific Coast	4.750-5.000	1.25-30	.....	....	1.35-45	*0.85-90

*Pacific specification 400.

Lubricating Oils

	Neutral oils		Bright and cylinder stocks		
	200-3	150-3	200-3	150-3	600&630 S.R.
Mid-Continent	16.8	.....	28.8	24.8	.....
Pennsylvania	43-50	41-46	36-37	36-37	26.5-27

GASOLINE AND KEROSENE TANK-WAGON PRICES IN 50 CITIES

ATLANTIC AND NEW ENGLAND

(Socony-Vacuum Oil Co., Inc., and Atlantic Refining Co.)

	Dealer tank wagon	Combined tax	Kero. tank wag.
Baltimore, Md.	15.05	5.50	8.70
Boston, Mass.	14.00	4.50	8.00
Burlington, Vt.	16.00	5.50	.....
Buffalo, N. Y.	15.30	5.50	8.30
Dover, Del.	15.80	5.50	10.50
Hartford, Conn.	14.70	4.50	.....
Manchester, N. H.	16.40	5.50	9.00
Newark, N. J.	14.30	4.50	7.90
New York, N. Y.	15.20	5.50	8.00
Philadelphia, Pa.	15.30	5.50	10.15
Pittsburgh, Pa.	15.80	5.50	10.50
Portland, Me.	15.40	5.50	8.10
Providence, R. I.	14.10	4.50	7.80
Washington, D. C.	14.30	3.50	9.20
Average 14 cities	15.04	5.07	8.72

CENTRAL

(Standard Oil Co. of Indiana, Standard Oil Co. of Ohio, Continental Oil Co. and Texas Co.)

	Dealer tank wagon	Combined tax	Kero. tank wag.
Chicago, Ill.	14.10	4.50	10.30
Cleveland, Ohio	15.00	5.50	*9.00
Dallas, Tex.	13.00	5.50	7.00
Des Moines, Iowa	11.90	4.50	9.80
Detroit, Mich.	14.40	4.50	9.60
Fargo, N. D.	16.90	5.50	11.30
Huron, S. D.	16.30	5.50	10.70
Indianapolis, Ind.	15.20	5.50	9.80
Little Rock, Ark.	17.25	8.00	8.00
Milwaukee, Wis.	16.10	5.50	10.50
Minneapolis, Minn.	15.40	5.50	10.30
Omaha, Neb.	15.40	6.50	9.80
Tulsa, Okla.	15.00	7.00	8.00
Wichita, Kans.	12.70	4.50	8.00
Average 14 cities	14.90	5.57	9.44

*Includes 1-cent state tax.

SOUTHEASTERN

(Standard Oil Companies of New Jersey, Kentucky and Louisiana)

	Dealer tank wagon	Combined tax	Kero. tank wag.
Atlanta, Ga.	18.50	7.50	10.00
Birmingham, Ala.	19.00	8.50	9.00
Charleston, S. C.	18.05	7.50	.....
Charleston, W. Va.	18.35	6.50	11.50
Charlotte, N. C.	19.20	7.50	9.50
Jacksonville, Fla.	18.50	8.50	8.00
Jackson, Miss.	18.00	7.50	9.00
Louisville, Ky.	17.00	6.50	8.50
Memphis, Tenn.	17.75	8.50	10.50
New Orleans, La.	17.75	8.50	*10.50
Norfolk, Va.	16.55	6.50	10.20
Average 11 cities	18.05	7.59	9.67

*Includes 1-cent state tax.

MIDWESTERN

(Continental Oil Co.)

	Dealer tank wagon	Combined tax	Kero. tank wag.
Albuquerque, N. M.	17.50	7.50	10.00
Boise, Idaho	20.10	6.50	10.50
Casper, Wyo.	17.00	5.50	12.00
Denver, Colo.	14.50	5.50	11.00
Helena, Mont.	17.00	6.50	13.00
Phoenix, Ariz.	18.50	6.50	12.50
Reno, Nev.	17.50	5.50	13.50
Salt Lake, Utah	18.50	6.50	14.50
Average 8 cities	17.58	6.25	12.88

PACIFIC COAST

(Standard Oil Co. of California)

	Dealer tank wagon	Combined tax	Kero. tank wag.
Portland, Ore.	17.00	6.50	13.50
San Francisco, Calif.	14.50	4.50	11.50
Seattle, Wash.	17.00	4.50	13.50
Average 3 cities	16.17	5.17	12.83
Average 50 cities	16.14	5.96	9.87
Average last week	16.03	5.96	9.80

Crude-Oil Prices

(Continued from Page 79)

Agua Dulce (heavy), 10-16-41 ....$1.25
Republic Oil Refining Co., 5-21-41.
Alfred and Magnolia City $1.35
Continental Oil Co., 5-21-41.
Alice, Benavides (North Sweden), Ben Bolt, Clark-Muil, Sun, and Tom Graham $1.35
Humble Oil & Refining Co., 5-21-41.
Batson (new), Humble (35° and above), Fig Ridge, Hardin, Hull (25° and above), La Belle, North Dayton (25° and above), Seabreeze South China, West Orange, Willow Slough and Oyster Bayou..$1.25
Sun Oil Co., 5-21-41.
Cass County $1.20
Texas Co., 5-21-41.
Cayuga, Anderson County $0.90
Pan American Production Co., 5-21-41.
Chapel Hill, Smith County:
Crude distillate $1.30
Crude oil 1.18
Chapel Hill Gas System, 11-7-41
Clay Creek, Washington County ...$1.00
Sun Oil Co., 5-21-41.
Cleveland, Liberty County $1.26
Magnolia Petroleum Co., 5-21-41.
Conroe, Montgomery County $1.43
Humble Oil & Refining Co., 5-21-41.
Tide Water Associated Oil Co., 5-21-41.
Sun Oil Co., 5-21-41.
Texas Co., 5-21-41.
Cotton Lake (South) $1.35
Sun Oil Co., 5-21-41:
East Texas and Flag Lake* $1.25
**Humble Oil & Refining Co.*, 5-21-41.
Pan American Production Co., 5-21-41.
Tide Water Associated Oil Co., 5-21-41.
Gulf Refining Co., 5-21-41.
Magnolia Petroleum Co., 5-21-41.
Sinclair Prairie Oil Marketing, 5-21-41.
Shell Oil Co., Inc., 5-20-41.
Sun Oil Co., 5-21-41.
Texas Co., 5-21-41.
Stanolind Oil Purchasing Co.
Esperson (35° and above), South Esperson $1.30
Sun Oil Co., 5-21-41.
Flour Bluff, East Flour Bluff $1.33
Humble Oil & Refining Co., 5-21-41.
Hockley and Cochran $0.87
Texas Co., 5-21-41.
Livingston $1.25
Shell Oil Co., Inc., 5-20-41.
Long Lake $1.23
Sinclair Prairie Oil Marketing, 5-21-41.
Luby $1.35
American Mineral Spirits Co., 5-21-41.
Luling $1.05
Magnolia Petroleum Co., 5-21-41.
Lytton Springs $1.17
Magnolia Petroleum Co., 5-21-41.
Salt Flat, North Salt Flat, Darst Creek*, Hilbig, Clark, Carroll, and Zoborski $1.14
Humble Oil & Refining Co., 5-21-41.
Magnolia Petroleum Co., 5-21-41.
**Texas Co.*, 5-21-41.
Rincon (North) $1.35
Sun Oil Co., 5-21-41.
Sun $1.35
Sun Oil Co., 5-21-41.
Talco $0.79
Humble Oil & Refining Co., 5-21-41.
Magnolia Petroleum Co., 5-21-41.
Tomball and Satsuma $1.40
Humble Oil & Refining Co., 5-21-41.
**Magnolia Petroleum Co.*, 5-21-41.
Stanolind Oil Purchasing Co., 4-1-41.
Van, Van Zandt County $1.08
Humble Oil & Refining Co., 5-21-41.
Pure Oil Co., 5-21-41.
Yates (regular) $0.95
Humble Oil & Refining Co., 5-21-41.
Gulf Refining Co., 5-21-41.
Shell Oil Co., Inc., 5-20-41.
Yates (shallow) $0.82
Shell Oil Co., Inc., 5-20-41.

Kentucky

Ashland Oil & Transportation Co., 6-19-41:
Big Sandy River $1.38
Kentucky River 1.43
Sohio Corp., 5-21-41:
Birk City $1.15

Montana

Continental Oil Co., 4-1-41:
Cat Creek $1.15

Colorado

Stanolind Oil & Gas Co., 5-20-41:
Iles $1.07
Continental Oil Co., 5-21-41:
Canon City-Florence $1.05

Canadian Fields

Imperial Oil, Ltd.:
Petrolia, 11-6-39 .....$2.10
Oil Springs, 11-6-39 ..... 2.07
Bothwell, 11-6-39 ..... 2.10
Turner Valley, 7-16-41 .....$1.35-1.97

EQUIPMENT PROGRESS...

Fire Causes Only Slight Delay at Smith Meter

Within 24 hours after a recent fire was extinguished at the Smith Meter Co., 5743 Smithway Street, Los Angeles, Calif., all departments were back on full schedule of operation. Those departments normally operating in the burned portion of the building were moved to an adjoining building and an overtime schedule was adopted to make up for the delay.

Damage by fire to the Smith Meter Co., Los Angeles, Calif., is shown here

The west half of the plant suffered the most severe damage, but a fire wall in the center of the main building kept the fire away from the machine shop and the offices at the east end of the building. There was not a single instance of damage to the machine shop or equipment, or to any of the other manufacturing departments, or to the office records.

That portion of the building which was damaged most severely housed the assembly department and inventory of finished parts. Due to the nature of the building, the entire fire was overhead and the actual destruction of inventory was very small except for some special parts in a second-floor storeroom.

There was some smoke and water damage, but the principal delay comes from the fact that the entire inventory must be cleaned, replated, and reassembled before it is usable. This is causing a few days' delay in deliveries.

TRADE LITERATURE

B. and W., INC., 3545 Cedar Avenue, Long Beach, Calif.—Bulletin 102 explaining the principle and operation of B. and W. wall-cleaning guides for cementing casing. It shows by diagrams and photographs how the guides center the casing, remove mud cake, prevent channeling, and improve the primary cement job.

OIL WELL SUPPLY CO., Dallas, Tex.—Bulletin P2-1241—"Oilwell" No. 612-P (6 by 12 in.) power slush pump. Bulletin U5-142—"Oilwell" TC-23 and TC-33 twin-crank pumping units. The TC-23 and TC-33 pumping units are new additions to the extensive Oilwell line. A feature of both is the provision for increasing the maximum stroke length from 54 in. to 64½ in. to suit particular well conditions.

JOSEPH T. RYERSON & SON, INC., 2558 West Sixteenth Street, Chicago, Ill.—One Hundredth Anniversary Steel Stock List, a 268-page catalog listing more than 11,000 different kinds, sizes, and shapes of steel bars, shapes, plates, sheets, tubing, cold finished, alloy, tool, and stainless steels normally carried in stock for immediate shipment. It also contains a brief history of the growth of the organization from a small iron store in 1842 to a group of 10 large plants which today give quick service to steel users in all major industrial areas.

GATKE CORP., 228 North La Salle Street, Chicago, Ill.—Nonmetallic bearing catalog, describing Gatke molded fabric bearings of various types for grease or oil lubrication, water lubrication, acid-resisting service, and some unlubricated applications.

MANNING, MAXWELL & MOORE, INC., Bridgeport, Conn.—A new 1942 Ashcroft gage catalog. It contains listings of numerous new gages, streamlined gage cases, gages for special services, and a complete listing of Dura-Gages.

LAMINATED SHIM CO., INC., Glenbrook, Conn.—A new 8-page booklet which gives a history of the development of industrial and mechanical applications of the laminated shim since the founding of the company. It describes the use of the shim for fitting of machine parts in original assembly, as well as for making service adjustments.

DRESSER MANUFACTURING CO., Bradford, Pa.—A brochure entitled "Dresser Industries in National Defense and Civilian Service."

B. F. GOODRICH CO., Akron, Ohio.—"Operator's Handbook," a booklet providing new data on obtaining maximum service from truck tires. Included are charts and tables showing the value of proper inflation and loads and other precautions.

Hunt Feed-Water Compound Made for Bad-Water Areas

Hunt Tool Co., Houston, Tex., has announced the Hunt feed-water compound for use in oil fields where "bad" water is encountered. But in addition to this special use, the manufacturer states that the compound is also an aid in keeping scale from forming, regardless of water used.

The Hunt feed-water compound is used directly in the feed-water pit in order to treat the water before it has entered the pumps or boilers. The compound dissolves slowly. Through the use of this compound, most of the hardness of the water is settled out in the pit, the manufacturer claims.

Hunt engineers state that only by inspecting the water can the proper amount of this feed-water compound be determined. When the compound is first used, it is stated that the operator should blow down the boilers every 2 or 3 hours, according to condition of boiler. To secure maximum efficiency, the boilers should be examined once a week to determine the increase or decrease of compound and frequency of blow down.

Well-Service Company Is Formed by Tom Sharp

Tom Sharp, Gulf Coast agent for Cavins Corp. for the past 12 years, has formed Tom Sharp, Inc., well-service company, at Houston, Tex. The new company will offer bailer and well clean-out service to the Gulf Coast.

In addition to the Houston office and service plant, there is a Lake Charles, La., branch, under the direction of Darrel H. Blair, to service that section of the Gulf Coast.

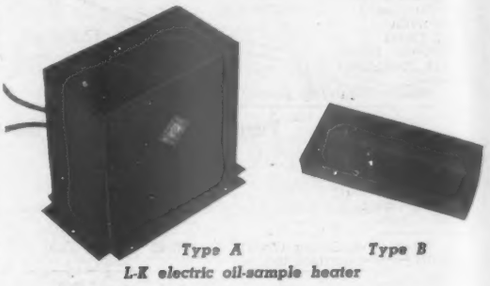
The new company will have additional well-servicing equipment to announce to the industry at a later date.

Electric Oil-Sample Heater Operates on Car Batteries

L-K Pump Valve Co., 632 North Edgewood, Houston, Tex., has announced the electric oil-sample heater, available in Models A and B. Model A is designed to handle the small cc. centrifuge or small A.P.I. tubes. Model B is designed to handle the pear-shaped A.S.T.M. 100 or 200-cc. tubes.

The heater is compact, lightweight, and safe from danger of sparks or causing fires. It works from the car batteries.

Fast in operation, either model heats to 120° F. on low stage in 15 minutes; to 180° on medium stage in 15 minutes; and to 240° on high stage in 15 minutes. The high stage is used only for excessive duty on continual operation where samples are being made constantly, necessitating a frequent cooling of the centrifuge tubes and samples.



Type A *Type B*

L-K electric oil-sample heater

The low stage at 120° holds the required heat for most oils.

Industrial Defense Leaders View Speed-Up Training Film

Industrial training for defense was the chief subject of discussion at the testimonial dinner for James F. Lincoln, president of the Lincoln Electric Co., of Cleveland, Ohio, at the Biltmore Hotel, Los Angeles, Calif., last week.

The main feature of the program was the premiere screening of one of the first motion pictures designed to speed up defense training for industry, and increase the country's pool of skilled manpower. This picture, "Inside of Arc Welding," produced by Raphael G. Wolff, of Hollywood, Calif., is an all-color instruction film illustrating the technique of arc control and electrode manipulation and showing the various steps in the welding process. It marks the first step in the application of visual education methods to welding instruction.

Mr. Lincoln cooperated in the making of the film which has been more than 6 months in preparation and will be released immediately to schools and training groups. Because of its content of heretofore unphotographed phenomena, the motion picture is of interest to research experts as well as of value to instructors in this field. "Inside of Arc Welding" combines animated cartoons with actual photography to show on the screen, for the first time, the complete welding process.

Engineering and Laboratory Space Enlarged by Fluor

By action of its board of directors, the Fluor Corp., Ltd., through J. S. Fluor, Jr., has announced two important additions to its facilities. The move will provide an added wing to the company's main office building to house its expanding engineering department and

a new building to house the company's new research and development laboratory. The addition of the wing to the parent building marks the third such addition to the structure and the second addition to the engineering department wing since the company occupied its new office building in September 1940.

The erection of the new research and development laboratory building marks an undertaking long planned by the company to widen and round out its scope for service to the oil and gas industries. Facilities will be provided for the observation and study of the behavior of gases under high pressures and for the study of the many complex problems of modern refining processes, particularly those of isomerization and alkylation. Likewise, studies of the problems related to recovery of natural gasoline and light hydrocarbon fractions from field gases, gas treatment and gas cleaning will be undertaken.

The building will contain the latest and most modern laboratory equipment and a feature will be an air-conditioning system for the maintenance of constant temperature control at 77° F., plus or minus 2.5° F.

AMONG EQUIPMENT MEN...

Moorlane Company Acquires Braden Steel

W. D. Moorer, president of the Moorlane Co., Tulsa, has announced acquisition of Braden Steel Corp. of Tulsa, as a wholly owned subsidiary, from the Colonial Trust Co. of Pittsburgh, Pa. The Moorlane Co. was organized in 1929 to distribute equipment to the oil industry.

JACK HENDRICKS

W. D. MOORER

With the acquisition of the Braden company, which was organized in 1923, the list of manufactured products will now include the well-known line of Braden weatherproof sectional steel buildings, engine houses, power buildings, machine shops, gasoline plants, ventilators, metal-clad doors, portable meter houses, loading racks, etc.

The Moorlane Co., in addition to its pipe-fabricating equipment and machine shop, will also now have 35,000 sq. ft. of plant with modern fabricating facilities for light structural-steel and sheet-metal work.

With the expanded personnel and increased manufacturing facilities it is the plan of the management to participate in structural-steel fabrication for national-defense projects, in addition to employing its shop facilities in defense work. This expansion will also provide better service to the oil industry. It shall be the purpose and object of the new owners to continue the traditions of service and quality of products and to enlarge the well grounded policy of service of Braden Steel. Braden Steel Corp. will continue to be operated as an independent unit retaining all present personnel and management, supplemented by the management and facilities of Moorlane Co.

Officers are: W. D. Moorer, president; S. D. Hunt, vice president; H. S. Medlin, secretary-treasurer; James C. Pharr, assistant secretary; L. T. True, assistant treasurer. Jack Hendricks will be manager of Braden's Tulsa plant. J. G. Mathews is Tulsa sales engineer. The company will maintain a sales office in Houston, Tex., at 229 Shell Building, with R. W. (Bob) Rogers as resident manager. Moorlane Co. has branch offices and warehouses at Kansas City, Mo., and Amarillo, Tex. These offices will also represent Braden Steel Corp.

Timken Sales Promotion Head Given New Duties

R. M. Marberry, sales promotion manager of the Timken Silent Automatic division, has been appointed advertising manager of the Timken-Detroit Axle Co. In his new capacity, Mr. Marberry will direct all advertising for Timken axles and brakes, and for Timken Silent Automatic oil-heating products.

O. W. Maloney Resumes Active Part in Tank Firm

O. W. Maloney, son of O. W. Maloney, Sr., one of the organizers of the Maloney Tank Manufacturing Co., Tulsa, in 1909, has returned to active participation in affairs of the company and was elected president at the annual meeting last month. Mr. Maloney has not been active in the company for several years.

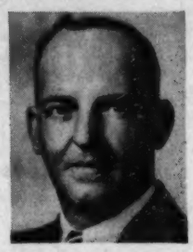
Other officers for 1942 are: J. S. Warren, chairman of the board and treasurer; J. C. Highfill, vice president and manager; C. M. Warren, general counsel and secretary; T. J. Costello, sales manager; and J. S. Warren, Jr., sales engineer in charge of government defense orders.

BUSINESS NOTES

Wyatt Metal & Boiler Works, Houston and Dallas, Tex., has added a modern shop office to its plant at Dallas. Ceilings and walls of this new office are fully insulated against all shop noises, vibrations, and heat. Special offices have been included for visiting inspectors or plant men, and shower baths, lavatories, and lockers are provided for all employes.

Former Auto Distributor in Mexico Takes Export Job

Marmon-Herrington Co., Indianapolis, Ind., has recently added to its export staff, in direct charge of Latin-American business, William H. Klett, who has had many years' experience with the Spanish-speaking peoples. Mr. Klett, although a native-born American, was educated in Mexico and did not really learn the English language until he returned to the United States as a young man.



WILLIAM K. KLETT

His automotive experience comprises the management of a large distributing firm in Mexico City, and many years as district manager in Central and South America, as well as in the United States, for several prominent automobile manufacturers.

Bert Dingley, vice president of Marmon-Herrington, says that the addition of Mr. Klett to the export organization brings not only additional linguistic abilities, but a more thorough knowledge and appreciation of the Latin-American peoples and philosophy.

Cavins Bailer Service Is Succeeded by New Firm

Franklin F. Jones has been named general manager of the Cavins Corp., a new Texas firm servicing the entire Mid-Continent area for the complete line of Cavins oil-well cleanout tools and specialties. Other officers of the organization are: Paul Cavins, president; Roy L. Arterbury, vice president and treasurer; K. S. Mandell, secretary.

FRANKLIN F. JONES

Operating headquarters of the corporation are in Houston, Tex., with offices and service crews at the following points in the Mid-Continent: Houston, Dallas, Corpus Christi, Pampa, Kilgore and Odessa, Tex.; Lake Charles, La.; Artesia, N. M.; Seminole, Okla.; and Ellinwood, Kans. The new corporation succeeds the Cavins Bailer Service of Texas and all branches and agencies which have handled Cavins products.

NEW YORK NOMADS HOLD ANNUAL MEETING . . .

Shown here are the 1942 officers of the New York Chapter of Nomads who were elected at the annual meeting in New York City, January 9.

Seated, left to right, are: F. J. Olson, Cardwell Manufacturing Co., treasurer; Val R. Wittich, export representative, secretary; Russell D. Heath, Westinghouse Electric International Co., president; and I. Frank Brown, export representative, vice president. Standing are: John H. Baird, export representative, and James A. Thomas, Parkersburg Rig & Reel Co., members of board of regents; A. V. Simpson, export representative, sergeant-at-arms; G. B. Flanigan, Chain Belt Co., assistant sergeant-at-arms; and Charles J. Delay, Continental-Emsco Co., assistant secretary.

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Leases and Drilling Blocks — Leases and Drilling Blocks

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We own properties in California, Illinois, Indiana, Kansas, Louisiana, Nebraska, Oklahoma, Texas.

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We invite inquiry from responsible drillers. Address P. O. Box 177, Cincinnati, Ohio.

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

LEASES ROYALTIES
PRODUCING OR NONPRODUCING
Texas, New Mexico, Oklahoma, Louisiana and Illinois
20 Years Experience
Inquiries Invited
B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

FOR SALE: Oil and gas leases, small production, drilling propositions, fluorspar and rock asphalt deposits. Reports and maps furnished on request. W. P. Harley, Bowling Green, Ky.

THE
OIL PROPERTIES EXCHANGE
For Sale: Many Producing Oil Properties, Royalties, Drilling Blocks, and Oil Investments of various sizes in Mid-Continent area. Contact us to Buy or Sell properties.
Alexander Bldg., Tulsa, Okla.

ABOUT 3,000 acres of oil leases open to drill for acreage, good possibilities. Philo Dempsey, Roosevelt, Okla.

OIL OPERATORS ATTENTION: 10,000 acre drilling block R.M. area, Shallow and deep oil. Will deal for drilling percentage. Box A-823, The Oil and Gas Journal, Tulsa.

WESTERN Kans. & Eastern Colo. 100,000 acres for lease or sale. Terms. Write Owner, John W. Baughman, Liberal, Kans.

FOR LEASE, potential oil lands on Beaver Creek Structure near Havre, Mont. Now producing gas. See U. S. G. S. Bulletin 641CC. Address Box 505, Havre, Mont.

FRANCIS N. BOSCO, Petroleum Engineer
VALUATION—RESERVES
EXPLORATION—DEVELOPMENT
SECONDARY RECOVERY PROBLEMS
SYNTHETIC RUBBER "ENGINEERING"
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Mailing Lists

ROYALTY owners, Oil investors, Unit holders, Stockholders, Operating personnel of oil industry. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Okla.

Financing

LOANS made on producing oil, gas and mineral lands. New York Note & Share Corp., 109 Broad St., New York City.

Patent Attorneys

PATENTS — TRADE MARKS
All cases submitted given personal attention.
Form "Evidence of Conception" with instructions for use and "Schedule of Government and Attorney's Fees"—FREE.
LANCASTER, ALLWINE & ROMMEL
Patent Law Offices
418 Bowen Bldg., Washington, D. C.

Situations Wanted

CAPABLE refinery superintendent now employed desires change. Experience includes construction and operations. Details discussed in correspondence or interview. Box A-861, The Oil and Gas Journal, Tulsa, Okla.

PETROLEUM Engineer-Geologist, Age 30, Single, Good Health, Excellent References. Available Now. Draft 1-B or 3-A. Box A-862, The Oil and Gas Journal, Tulsa, Okla.

PETROLEUM and PRODUCTION ENGINEER; age 29; seven years with major oil company, four years as district head. Forced to terminate present private business venture due to shortage of materials. Desire connection with a progressive oil company in need of an experienced engineer. Box A-851, The Oil and Gas Journal, Tulsa, Okla.

LEASEMAN experienced in assembling wildcat blocks Georgia, Florida, Alabama and Mississippi, will work on salary and expenses, or will take interest in blocks you pay expenses. Best references. Address P. O. Box 27, Ozark, Alabama.

PETROLEUM and Natural Gas Engineer, experienced in production schedules, costs, equipment design, inspection, purchasing, technical and legal investigations. Widely traveled, good contact man. Box A-831, The Oil and Gas Journal, Tulsa, Okla.

Help Wanted

WANTED: Experienced laboratory control operator for handling routine tests and controls. State experience and qualifications. Answers will be held confidential. Address Box A-841, The Oil and Gas Journal, Tulsa, Okla.

WANTED: Capable refinery superintendent. Preference for technical training. State experience and qualifications. Answers will be held confidential. Address Box A-840, The Oil and Gas Journal, Tulsa, Okla.

CHEMIST with experience in White Oils and Petroleum Soaps for routine tests. Small Bayonne, N. J. plant. State salary required and history. Box A-850, The Oil and Gas Journal, Tulsa, Okla.

Help Wanted

DESIGNERS AND DRAFTSMEN

For Oil Refinery work carrying high priority ratings of A-1-A and A-1-B under
Government Defense Program
Must have experience in design of:
Oil Refinery Process Piping,
Concrete and Structural,
Oil Heating Furnaces,
Pressure Vessels,
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and
Light and Power
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Can use several piping squad leaders. Must be thoroughly experienced.

ARTHUR G. McKEE & COMPANY
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BLAST FURNACES
STEEL PLANTS
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CLEVELAND, OHIO

MANUFACTURERS' Representatives known to the best oil field trade desired for quality specialties now being sold to the best oil field trade, repeat items, excellent commissions, exclusive territories open. Box A-811, The Oil and Gas Journal, Tulsa, Okla.

DESIGNING DRAFTSMAN
For oil refinery and chemical plant construction by large New York concern. War work. Time and a half for over 40 hours. Average 12 hours weekly overtime. Reply giving age, education, experience, include "snapshot" (non-returnable). Box A-834, The Oil and Gas Journal, 415 Lexington Avenue, New York City.

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ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma

OUR READY MARKETS Enable us to pay cash for producing royalty acreage, lots, units and oil payments. GLOBE SECURITIES CO., LTD., Oklahoma City.

ROYALTY 113 acres Old Ocean Pool in Brazoria County, Texas, $193,000. L. L. Scott, 1242 S. Boston, Tulsa, Okla.

ROYALTY INTERESTS, under producing oil and gas-distillate properties, bought and sold. Inquiries and offerings invited. Accounts of registered dealers solicited. J. GOULD REAVES, REAVES BUILDING, TYLER, TEXAS.

WE BUY & SELL all types of Oil and Gas Royalties. Sales restricted to registered dealers only. Grimes Royalty Co., National Mutual Bldg., Tulsa, Okla.

BUY RANCH Land under oil development R.M. area. Returns ⅛ royalty. 20 acres $135 or 40 acres $250. Write Box A-822, The Oil and Gas Journal, Tulsa.

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WANTED: Proven Oil production deals $100.00 or more, no brokers.
M. R. TRAVIS
1702 S. Boulder, Ph. 2-2447, Tulsa, Okla.

CRUDE OIL WANTED—Cash paid for crude oil from Oklahoma, Kansas, North Texas, Illinois, and Wyoming. Give amount available per day, field, pipeline connections, distance from pipe lines or railroads, formation, complete specifications, and price in first letter. Box A-844, The Oil and Gas Journal, Tulsa, Okla.

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DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

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Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

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HIGHEST cash prices paid for entire plants or individual production tools, milling machines, shapers, drill-presses, lathes, punch presses, electrical equipment and motors. Write us and a representative will call. COOK COUNTY MACHINERY CO., 1132 W. Lake St., Chicago, Ill.

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Regardless of condition
Get up on present prices!
This may be the time to liquidate them!
Quotations cheerfully
made without obligation
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"ANYTHING containing IRON or STEEL"

WANTED TO BUY
Bubble Tower three to four feet in diameter; 50-ft. or higher, equipped with fifteen to twenty trays. Tower must be in A-1 condition, and suitable to stand fifty pounds working pressure. Also 1,000-ft. Alloy Tubes, 3" or 3½" O.D. for pipe still service. Reply to P. O. Box 147, Nashville, Tenn.

For Sale—Equipment

WANTED—Used Oil Country boilers. Write us giving complete specifications, condition and location. Lucey Products Corp., Tulsa, Okla.

500 GATE Valves, Globe Valves, FE and SE, from ¼ inch to 10 inch. GILBERT PIPE & SUPPLY, Electra, Tex.

FOR SALE at Bartlesville: 15 oak drafting tables, $35 each. Patridge, Cities Service Oil Co., Bartlesville, Okla.

FOR SALE: 5 x 12 Oil Well Power Slush Pump with 100 H.P. Waukesha Motor. Melton Supply Co., Seminole, Okla.

IMPROVED N Sullivan Core Drill, good condition; priced to sell. Healdton Machine Tool Co., Healdton, Okla.

1—Braun Cooling Tower.
1—50 H.P. Kewanee Locomotive Type high pressure steam boiler.
1—Steel Building 18' wide x 25' long;
1—25' wide x 46' long;
1—14' wide x 33' long; all steel bolted type with asbestos sheeting, steel sash and doors.
1—Parkersburg SC-11 Pumping Unit, stroke range from 60 to 132".

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St. Clair County, Illinois

FOR SALE
Located one-half mile south of Shidler, Oklahoma.
3—190 HP. Type 3, New Watts-Miller twin gas engines, complete, with two-stage compressors, direct connected.
2—190 HP. Type 3, New Watts-Miller twin gas engines, complete, with single-stage compressors, direct connected.
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Large quantity of new, unused extra parts for 190 HP. New Watts-Miller Engines and Compressors; bearings, pistons, rings, valves, etc.
1—steel building, 222' long x 32' wide.
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A number of steel buildings with wood frames.
Large stock of fittings, from 2" including 16", mostly screw.
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2—size #6 and 1—size #3 A. C. Cemron Centrifugal Pumps.
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2—75 HP. Chicago Pneumatic Engines and Compressors, located near Wewoka, Oklahoma.
If interested, please write
KAHAN PIPE & SUPPLY CO.
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25 K.W. and 40 K.W. Gas Engines, 220 volts. D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air Compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
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FOR SALE: Heavy 7' x 22' Oil and Gas Separator. M. Ellis, 1305 South Cheyenne, Tulsa, Oklahoma.

FOR SALE
Skimming and Cracking Plant Equipment
Pumps—Fittings—Towers, Etc.
Write P. O. Box 218 or Phone 99
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TWO Murphy Diesel Engines 150 HP. each slightly used, excellent condition. For Sale f.o.b. Houston. 525 Waggoner Bldg., Wichita Falls, Texas.

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Used Waukesha and International, completely rebuilt.

IMMEDIATE DELIVERY FROM TULSA STOCK.

Also complete stock of new oil field flat belting.

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OFFER for immediate delivery from Oklahoma and Kansas points, subject to prior sale, approximately 50,000 feet 6⅝" O.D., 25,000 feet 8⅝" O.D. and 25,000 feet 5¼" O.D. All double random lengths, beveled for welding.
CENTRAL SUPPLY COMPANY
Tulsa, Oklahoma

FOR SALE
3—72" x 30' 15 tray Southwestern Engineering Co. Absorbers, 60# working pressure.
1—60" x 30' 15 tray Southwestern Engineering Co. Absorber, 75# working pressure.
1—30" x 34' 15 tray Absorber, Tulsa Type, 300# working pressure.
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OKLAHOMA CITY alloyed once run ⅞ & 1" sucker rods
MIKE TRAVIS, 1702 S. Boulder,
Phone 2-2447, Tulsa, Okla.

FOR SALE at Bartlesville: 1 model 1312 photostat machine. Complete $750. Patridge, Cities Service Oil Co., Bartlesville, Okla.

STORAGE Tanks, steel riveted, horizontal. Also towers & scrubber tanks. GILBERT PIPE & SUPPLY, Electra, Tex.

BESSEMER Gas Engines and Compressors. Ing.-Rand Vac. Pumps & other machinery. GILBERT PIPE & SUPPLY, Electra, Tex.

TRACTORS
Caterpillars, crawler type, size "35" $395; size "65" with nigger head winch $795.00; Austin Western hydraulic grader 10' blade $650. O. C. Evans, Mt. Sterling, Kentucky.

FOR SALE: 6 x 16 Wilson-Snyder Power Slush Pump. Melton Supply Co., Seminole, Okla.

FOR SALE
2—480-240 Southwestern Engineering Co., gas coolers, low pressure.
2—240 square ft. Southwestern Engineering Co., gas coolers, high pressure.
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FOR SALE: 80 H.P. Locomotive Type Firebox Boiler, stamped AS&ME Code and National Board, 125 lbs. pressure with stack 25" x 24', located at Chicago. Can make prompt delivery. CONSUMERS MACHINERY EXCHANGE, INC., BOULevard 4421, 146-152 West Root Street, Chicago, Illinois.

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4600 feet of 4-inch Full Hole API Drill Pipe Tool joints measure 5⅝" O. D.
1—9" x 34" South Bend Bench Lathe.
1—15" x 16' South Bend Lathe.
1—18" x 12' Prentice Bros. Lathe.
1—No. 10 Garvin Plain Milling Machine.
2—21" Buffalo Drill Presses.
1—2½" to 7" O. D. Late Model Pipe Machine.
AMERICAN SUPPLY CO., Kilgore, Texas.

NEW equipment for sale, can make immediate delivery from our Three Rivers plant:
3—3" 300 lb. Renewo Lunkenheimer brass Globe valves.
2—2" 125 lb. Walworth high pressure iron valves.
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FOR SALE: Viking ET 4" high pressure rotary pump with 2¾ to 1 speed reducing gear. One 4" Worthington high pressure rotary pump. Miscellaneous lot pumps and electric motors with starters. One 6" deep well turbine pump, 250' of column and shaft, electric motor or belt head. One 6" Centrifugal with 30 h.p., 1800 r.p.m. motor, 1000 g.p.m., 90' head.
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FOR SALE: 3—100 H.P. Clark Engines with direct connected compressors. Can be used for Drilling Engines. 190 H.P. Miller Gas Engine direct connected compressors. Triplex and Duplex Pumps. A. C. Askew, Box 3073, Whittier Sta., Tulsa, Okla.

FOR SALE: 125 H.P. 200 W.P. Broderick Boiler, Code Condition, $975. Melton Supply Co., Seminole, Okla.

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FOR SALE

20,000' 12¾" O.D. lapweld pipe.
5,000' 7", 24 lb. seamless casing.
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300 sets 3" tool joints, full hole.
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Both steam and power drilling rig. A complete line of drilling and pumping equipment.
Wire, write, or phone the

Louisiana Iron & Supply Company
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12-KW 125-Volt G. E. Generator, complete with switch board, etc. GILBERT PIPE & SUPPLY, Electra, Texas.

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16—24 yd. (or 74,600#) all steel DUMP CARS: one side discharge *Ideal for coke handling. Bargain!*
OTHER DUMP CARS (air operated) TOO.

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Opportunity to buy, at fraction of value. Consists of 50 tanks, approx. 125,000 gal. storage capacity. Processing machinery. Motor Trucks. Active, profitable accounts. Must dispose quickly.
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FOR SALE
1—Complete Std. drilling rig consisting of:
1—122' Emsco Angle Iron Derrick with 5" re-legs, Steel band wheel, steel bull wheel, steel calf wheel, Parkersburg sand reel.
1—Steel front with steel walking beam.
1—13¼ x 16 Reid twin diesel engine with OCS Jack shaft and clutch mounted on skids.
Above in first class condition having drilled but one well 6500' deep.
Also 1—122' angle iron used Lee C. Moore steel derrick.
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BENTONITE

To mud firms, users, processors and blenders of rotary drilling mud, for highly colloidal Eastern Wyoming type of bentonite, crushed and dried to specification ready for fine grinding, apply to Eastern Wyoming Bentonite Company, Moorcroft, Wyoming. No brokers.

FOR SALE at Oklahoma City: 1—100 H.P. Kewanee 200# W.P. oil field type boiler. Patridge, Cities Service Oil Co., Bartlesville, Okla.

FOR SALE at Oklahoma City -:- 1—1930 "35" Allis-Chalmers Crawler Tractor, $400.00. Patridge, Cities Service Oil, Bartlesville, Okla.

FOR SALE

300—BRAND NEW "SCHAEFFER & BUDENBERG" BRASS PRESSURE GAUGES:

8½" Dial, ½" I.P.S. Calibrated 0—4,000 lb. pressure. Fitted with Drawn Alloy Steel Bourdon Tube for use in connection with AIR—OIL—WATER PRESSURE. Price: $7.50 each—f.o.b. Philadelphia, Pa. All in original carton.

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156 Vassar Road, Cynwyd, Pa.

FOR SALE: International Diesel Motor U.D.-18. Almost new, complete with outboard bearing, pulley and belts. Adair-Morton Company, Wichita, Kansas.

FOR SALE: Surplus equipment, 4 Star Drilling Machines—4 Pipe Threading Machines. Also second-hand pipe, casing and oil and gas well supplies. Lee Morrison Supply Co., Bartlesville, Okla. Tulsa Representative phone 4-3355.

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Used Engines, Compressors, Power Plants and Gasoline Plant Equipment.

We Rebuild and Guarantee

L. F. SMITH CO.
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CLOSE CLEARANCE PUMPS
FROM
RODESSA REFINERY, SHREVEPORT, LA.

4—5⅛ x 2 x 7 Dean Simplex. 1—14 x 6 x 18 Dean Simplex.
1—18 x 9 x 8 Dean Simplex.
Above are horizontal, single style, piston type, stainless steel trim. 400 lbs. on discharge, 300 lbs. on suction.

ALSO

3—10 x 4½ x 10 National Transit Duplex. 1—14 x 4½ x 12 Gardner Duplex.
2—12 x 8½ x 10 Worthington Duplex. 1—14 x 6¾ x 12 Gardner Duplex.
Above are horizontal, pot valve type, stainless steel trim.

All in Excellent Condition and Priced for an Immediate Sale.

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At (Cedar Grove) Shreveport, La. Phone 7-7334
Leonard H. Strauss, Resident Engineer

Main Office: Kansas City, Mo. L.D. Phone 169
Harry B. Strauss, Manager

BANKRUPT SALE

IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF LOUISIANA SHREVEPORT DIVISION

1—POWER DRILLING RIG COMPLETE
2—STEAM DRILLING RIGS COMPLETE
MISCELLANEOUS EQUIPMENT,

Appraised at $45,657.80
H. E. Harper, Trustee,
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Shreveport, La.—P. O. Box 303

Journalisms:

BEING a medium for the exchange of information and opinions, the Journal always welcomes comment on articles which it publishes. Several weeks ago F. N. Bosco presented some interesting data on his article, "Cost Study of Fort Collins-Wellington, Colorado, Field." Among those who read this article was Dr. Ed Bloesch, consulting geologist, Tulsa, who agreed with major arguments set forth but felt that Mr. Bosco has underestimated the exploratory costs.

Dr. Bloesch is a graduate of the University of Zurich, Switzerland, and has been a practicing geologist in the United States since 1911. His commentary on Mr. Bosco's work will appear in next week's issue of the Journal.

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AS this copy of the Journal reaches you, many of the best technical men in the petroleum industry will be leaving for New York to attend the annual meeting of the Petroleum Section of the American Institute of Mining and Metallurgical Engineers. Technical advances in the industry during the past year will be presented and discussed. Many engineers will be unable to attend these meetings but the services of the Journal are available to report on what goes on there. In next week's issue the abstracts and digests of papers presented at the meeting will appear in the Engineering and Operating Section of the Journal. There will also be a news report on the happenings at the meeting.

•

DOWN on the Louisiana Gulf Coast the operators face numerous local problems as well as those of national scope which are imposed on the industry. A unique installation of the Texas Co. by which 18 wells (more are to be added) are flowed through a central separator battery and into a central tank battery will be discussed. Savings in material and operating efficiency are the result. The piece is authored by Neil Williams of the Journal staff.

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THIS week we present, on Page 22, another group of views of men prominent in the industry, on what can be done to hasten victory in the nation's war effort. Last week's issue contained a score of brief discussions on this subject, and the feature will be continued. These views have been solicited by the editors to obtain a cross-section of opinion which should be helpful as signposts pointing out the direction of future effort.

Apropos of this feature Petroleum Coordinator Ickes in his exclusive article for the Journal last week opined: "I believe that give-and-take is a wholesome thing. I believe that criticism is a wholesome thing. We need give-and-take and criticism to show us if we are wrong; to help us determine the best course of action."

We welcome your views.

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REPORTS of the past week again revealed the wide use that is made of the Journal's annual estimates of proven crude-oil reserves, a feature of the January 29 Annual Outlook and Review Number. Committees representing the industry obtained copies of the report by air mail in order to complete studies they are making for the Office of Petroleum Coordinator.

State regulatory bodies used the figures in wrestling with the problem of production levels for February and later in the year. Those who have the responsibility of determining where their companies will get their future oil were particularly complimentary of the exclusive feature of the Journal's reserve report which not only gives the total figures by states and areas but also evaluates the new discoveries of the previous year including maps showing where they are located.

Typical of comments was a letter from the production department of one of the Southwest's largest producing organizations, which is making a study of the fields in which it operates, requesting additional copies of the issue with the statement: "We find this particular issue indispensable in helping us make our annual survey on crude reserves."

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USE of electrical energy and electrical equipment is expanding in the oil industry and the interest in the application and utilization of this form of power is of increasing interest to petroleum engineers and production superintendents.

In next week's issue the first of a number of articles on this subject by W. H. Stueve will be published. The first one deals with a unique application of submergible centrifugal pumps, operation of two pumps in parallel in one well. This permitted the production of 5,500 bbl. of fluid daily, 5 per cent of which was oil.

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CALENDAR

February

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division annual meeting, Engineers Building, New York, N. Y., February 9-12.

INDUSTRIAL SAFETY SECTION, fourth annual safety conference, Roosevelt Hotel, New Orleans La., February 22-24.

AMERICAN PETROLEUM INSTITUTE, Division of Production, southwestern district, spring meeting, Adolphus Hotel, Dallas, Tex., February 26-27.

NORTH TEXAS OIL AND GAS ASSOCIATION, Wichita Falls, Tex., February 28.

March

AMERICAN SOCIETY FOR TESTING MATERIALS, committee week and spring meeting, Cleveland, Ohio, March 2-5.

INDIANA INDEPENDENT PETROLEUM ASSOCIATION, spring convention and refiners and suppliers exhibit, Hotel Severin, Indianapolis, Ind., March 3-5.

AMERICAN PETROLEUM INSTITUTE, division of production, Pacific Coast district, spring meeting, Biltmore Hotel, Los Angeles, Calif., March 10.

WISCONSIN PETROLEUM ASSOCIATION, annual convention and equipment show, Schroeder Hotel, Milwaukee, Wis., March 18-20.

OKLAHOMA UTILITIES ASSOCIATION, annual convention, Biltmore Hotel, Oklahoma City, Okla., March 23-24.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, spring meeting, Houston, Tex., March 23-25.

AMERICAN PETROLEUM INSTITUTE, division of production, Mid-Continent district, Mayo Hotel, Tulsa, March 26-27.

April

AMERICAN PETROLEUM INSTITUTE, eastern district, Division of Production, William Penn Hotel, Pittsburgh, Pa., April 9-10.

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